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CLAIMS:

1. A patient support comprising
a frame,
a mattress supported by the frame,
5 a barrier positioned to block egress of a patient from the mattress, the
barrier including first and second spaced-apart rails, and
a controller positioned to slide along the first and second rails.
2. The patient support of claim 1, wherein the first and second
rails cooperate to define an opening in the barrier and the controller is positioned in
10 the opening.
3. The patient support of claim 2, wherein the opening is curved.
4. The patient support of claim 2, wherein the first rail includes a
first surface, the second rail includes a second surface, the first and second surfaces
cooperate to define the opening, and controller contacts the first and second surfaces
15 when positioned to slide on the first and second rails.
5. The patient support of claim 1, wherein at least one of the rails
includes a convex surface and the controller includes a concave surface positioned
adjacent to the convex surface of the rail.
6. The patient support of claim 1, wherein first rail includes a first
20 convex surface, the second rail includes a second convex surface, and the controller
includes a first concave surface positioned adjacent to the first convex surface of the
first rail and a second concave surface positioned adjacent to the second convex
surface of the second rail.
7. The patient support of claim 1, wherein the controller is
25 removably coupled to the barrier.
8. The patient support of claim 7, wherein the controller includes
a housing and a retainer coupled to the housing to removable couple the housing to
the barrier.
9. The patient support of claim 8, wherein the retainer contacts
30 one of the first and second rails when the controller is coupled to the barrier.
10. The patient support of claim 7, wherein the controller is
supported by the first and second rails.

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11. A patient support comprising
a frame,
a mattress supported by the frame,
a barrier positioned to block egress of a patient from the mattress, the
5 barrier including upper and lower surfaces that cooperate to define an opening, and
a controller positioned to slide along the lower surface defining the
opening in the barrier.
12. The patient support of claim 11, wherein the controller is
removably coupled to the barrier.
- 10 13. The patient support of claim 11, wherein the controller is
coupled to the barrier to slide along the upper edge defining the opening in the barrier.
14. The patient support of claim 11, wherein the upper and lower
edges are convex and the controller includes upper and lower edges that are concave
to complement the upper and lower edges of the barrier.
- 15 15. The patient support of claim 11, wherein the controller includes
a housing and a retainer configured to couple the housing to the barrier.
16. The patient support of claim 15, wherein the retainer is a latch.
17. The patient support of claim 16, wherein the latch is biased into
contract with the barrier.
- 20 18. The patient support of claim 15, wherein the retainer is a
flexible tab.
19. The patient support of claim 18, wherein the controller includes
another retainer configured to couple the housing to the upper edge defining the
opening in the barrier.
- 25 20. A patient support comprising
a frame,
a mattress supported by the frame,
a barrier positioned to block egress of a patient from the mattress, the
barrier including a curved opening, and
30 a controller positioned in the curved opening to move along the barrier.
21. The patient support of claim 20, wherein the barrier includes a
longitudinally-extending first curved surface and a spaced-apart longitudinally

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extending second curved surface that cooperates with the longitudinally extending first curved surface to define the curved opening.

22. The patient support of claim 21, wherein the first curved surface has a first radius of curvature, the second curved surface has a second radius of curvature, the controller has a first curved surface having a radius of curvature generally equal to the first radius of curvature of the first curved surface and a second curved surface having a radius of curvature generally equal to the second radius of curvature of the second curved surface.

23. The patient support of claim 20, wherein the barrier includes a first curved surface cooperating to define the curved opening and the controller includes a first curved channel positioned adjacent to the first curved surface of the barrier.

24. The patient support of claim 23, wherein the barrier includes second curved surface spaced apart from the first curved surface that cooperates to define the curved opening and the controller includes a second curved channel positioned adjacent to the second surface of the barrier.

25. The patient support of claim 20, wherein the barrier includes a pair of rails cooperating to define the curved opening and at least one of the rails is curved.

26. The patient support of claim 25, wherein the controller includes a curved channel sized to receive a portion of the curved rail.

27. The patient support of claim 20, wherein the controller is configured to move along the length of the barrier.

28. The patient support of claim 20, wherein controller is configured to slide along the barrier.

29. The patient support of claim 20, wherein the controller is removably received in the curved opening.

30. A patient support comprising
a frame,
a mattress supported by the frame,
a barrier positioned to block egress of a patient from the mattress, the barrier including a surface defining an opening in the barrier, and

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a controller having a housing and a retainer coupled to the housing and configured to contact the surface of the barrier to removably couple the housing to the barrier.

31. The patient support of claim 30, wherein the retainer includes a
5 latch positioned to removably couple the housing to the barrier.

32. The patient support of claim 31, wherein the latch is movable between a first position coupling the housing to the barrier and a second position permitting removal of the housing from the barrier.

33. The patient support of claim 31, wherein the latch is biased into
10 contact with the surface of the barrier.

34. The patient support of claim 31, wherein the housing includes an opening and the latch is positioned to extend through the opening.

35. The patient support of claim 34, wherein the latch includes a stop configured to limit movement of the latch through the opening.

36. The patient support of claim 31, wherein the latch is pivotably
15 coupled to the housing.

37. The patient support of claim 31, wherein the latch includes a ramp portion configured to ride over the surface of the barrier during removal of the controller from the barrier.

38. The patient support of claim 30, wherein the controller includes
20 a corner edge and the retainer is positioned along the corner edge.

39. The patient support of claim 30, wherein the retainer and the housing cooperate to define a first width of the controller when the retainer is in the first position relative to the housing and a second width of the controller when the
25 retainer is in a second position relative to the housing, the first width is less than a width of the opening and the second width is greater than the width of the opening.

40. A patient support comprising
a frame,
a mattress supported by the frame,
30 a barrier positioned to block egress of a patient from the mattress, and
a controller removably coupled to the barrier, the controller being movable from a first position spaced apart from the barrier to a second position

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coupled to the barrier, the controller being movable along a path having a horizontal component from the first position to the second position to couple the controller to the barrier, the controller being movable along the barrier when in the second position.

41. The patient support of claim 40, wherein the controller includes
5 a housing and a retainer configured to removably couple the housing to the barrier.

42. The patient support of claim 41, wherein the barrier includes an opening and the controller is positioned in the opening.

43. The patient support of claim 42, wherein the controller is
movable along the horizontal component of the path to position the controller in the
10 opening.

44. The patient support of claim 42, wherein the housing and the
retainer cooperate to define a first width when the retainer is in a first position relative
to the housing and a second width when the retainer is in a second position relative to
the housing and the opening has a width that is greater than the first width and less
15 than the second width.

45. The patient support of claim 41, wherein the path is completely
horizontal.

46. The patient support of claim 41, wherein the barrier includes a
side defining a substantially vertical plane and the controller is inserted through the
20 vertical plane when coupled to the barrier.

47. The patient support of claim 46, wherein the barrier includes an
opening and the controller is positioned in the opening.

48. The patient support of claim 47, wherein the opening extends
completely through the barrier.

49. A patient support comprising
25 a frame,
a mattress supported by the frame, the mattress having a first side and a
second side transversely spaced-apart from the first side,
a first barrier positioned to block egress of a patient from the first side
30 of the mattress, the first barrier including a first opening formed therein,

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a second barrier positioned to block egress of a patient from the second side of the mattress, the second barrier including a second opening formed therein, and

5 a controller configured to be removably received in the first opening of the first barrier and removably received in the second opening of the second barrier.

50. The patient support of claim 49, wherein the controller is configured to move along the first barrier when received in the first opening.

51. The patient support of claim 50, wherein the controller is configured to move along the second barrier when received in the second opening.

10 52. The patient support of claim 51, wherein the controller is slidably coupled to the first and second siderails when received in either of the first and second openings.

53. The patient support of claim 49, wherein the first and second openings are curved.

15 54. The patient support of claim 53, wherein the controller includes a housing have a curved portion that complements the curvature of the first and second openings.

55. The patient support of claim 49, wherein the controller includes a housing and a retainer configured to couple the housing to the first and second
20 barriers.

56. A patient support comprising
a frame,
a mattress supported by the frame,
a barrier positioned to block egress of a patient from the mattress, the
25 barrier having a longitudinal axis, and

a controller, the barrier including a guide configured to direct movement of the controller along the barrier in a path having longitudinal and transverse components.

57. The patient support of claim 20, wherein the guide includes a
30 first and second spaced-apart longitudinally and transversely-extending curved surfaces that cooperate to guide controller along the path.

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58. The patient support of claim 57, wherein the first curved surface has a first radius of curvature, the second curved surface has a second radius of curvature, the controller has a first curved surface having a radius of curvature generally equal to the first radius of curvature of the first curved surface and a second curved surface having a radius of curvature generally equal to the second radius of curvature of the second curved surface.

59. The patient support of claim 56, wherein the barrier includes a first curved surface and the controller includes a first curved channel positioned adjacent to the first curved surface of the barrier.

60. The patient support of claim 59, wherein the barrier includes second curved surface spaced apart from the first curved surface and the controller includes a second curved channel positioned adjacent to the second surface of the barrier.

61. The patient support of claim 60, wherein the guide includes a pair of rails cooperating to guide the controller.

62. The patient support of claim 61, wherein at least one of the rails is curved.

63. The patient support of claim 62, wherein the controller includes a curved channel sized to receive a portion of the curved rail.

64. The patient support of claim 56, wherein the guide includes an opening and the controller is positioned in the opening.

65. The patient support of claim 56, wherein controller is configured to slide along the barrier.

66. The patient support of claim 56, wherein the controller is removably coupled to the guide.

67. A patient support comprising
a frame,
a mattress supported by the frame,
a pair of spaced-apart barriers positioned to block egress of a patient
from the mattress,
a controller removably coupled to the barrier, the controller including a housing, a cord coupled to the housing, and a first connector coupled to the cord,

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a second connector supported by the frame, the first connector being configured to couple to the second connector to provide communication for the controller through the first and second connectors when the first connector is coupled to the second connector, and

5 a third connector supported by the frame, the first connector being configured to couple to the third connector to provide communication for the controller through the first and third connectors when the first connector is coupled to the third connector.

68. The patient support of claim 67, wherein the second and third
10 connectors are coupled to the frame.

69. The patient support of claim 67, wherein the frame includes a first frame supported by the floor and a second frame supported above the second frame and configured to be raised and lowered relative to the first frame, the mattress is supported by the second frame, and the second and third connectors are coupled to
15 the second frame.

70. The patient support of claim 67, wherein the first, second, and third connectors are plug connectors.

71. The patient support of claim 70, wherein the first connector includes at least one of a plurality of plugs and a plurality of sockets and the second
20 and third connectors includes at least one of a plurality of sockets and a plurality of plugs.

72. The patient support of claim 67, wherein the frame includes a first side and a second opposite side, the second connector is supported by the frame on the first side, and the third connector is supported by the frame on the second side.

25 73. The patient support of claim 72, wherein the second connector is coupled to the first side of the frame and the third connector is coupled to the second side of the frame.

74. The patient support of claim 67, wherein the second connector is coupled to a first plurality of wires, the third connector is coupled to a second
30 plurality of wires, and first and second plurality of wires meet at a junction.

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75. A patient support comprising
a frame having a base frame and an intermediate frame configured to
move relative to the base frame between first and second positions,
a deck coupled to the intermediate frame, the deck including at least
5 one deck section configured to move relative to the intermediate frame between first
and second positions,
a mattress supported by the deck,
a plurality of actuators configured to move between first and second
positions to move the intermediate frame relative to the base frame and deck section
10 relative to the intermediate frame, and
a plurality of electrical foot-operated controls supported by the frame,
each of the plurality of foot-operated controls being movable to a first position to
control movement of at least one of the plurality of actuators to the first position and a
second position to control movement of at least one of the plurality of actuators to the
15 second position.
76. The patient support of claim 75, wherein the plurality of
actuators includes first and second actuators, the plurality of foot-operated controls
includes a first foot-operated control, movement of the first foot-operated control to
the first position controls movement of the first and second actuators to the first
20 position, movement of the first foot-operated control to the second position controls
movement of the first and second actuators to the second position.
77. The patient support of claim 75, wherein the plurality of
actuators are electrically powered.
78. The patient support of claim 75, further comprising a housing
25 supported by the frame and the plurality of foot-operated controls are coupled to the
housing.
79. The patient support of claim 78, wherein the housing includes a
plurality of cavities and each of the foot-operated controls is positioned in one of the
plurality of cavities.
- 30 80. The patient support of claim 79, wherein each of the plurality of
foot-operated controls includes a pedal pivotably coupled to the housing to move
between the first and second positions.

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81. The patient support of claim 80, wherein each of the plurality of foot-operated controls further includes a field sensor coupled to the housing to detect a change in the field caused by movement of the pedals.

82. The patient support of claim 81, wherein each of the plurality of
5 foot-operated controls further includes a magnet coupled to each of the pedals, each of the field sensors is configured to detect a change in position of the magnet caused by movement of the pedals.

83. The patient support of claim 80, wherein each of the plurality of foot-operated controls includes a biaser positioned to urge the pedal to third position
10 between the first and second positions.

84. The patient support of claim 83, wherein the biaser includes first and second spaced-apart springs positioned between the pedal and the housing, the first spring urges the pedal in a first direction, and the second spring urges the pedal in a second opposite direction.

85. The patient support of claim 75, further comprising first and
15 second spaced-apart housings supported on opposite sides of the frame, at least one of the plurality of foot-operated controls is coupled to the first housing, and at least one of the plurality of foot-operated controls is coupled to the second housing.

86. The patient support of claim 75, wherein the actuators are
20 configured to move in a first direction when moving to the first position and a second opposite direction when moving to the second position.

87. A patient support comprising
a frame,
a deck supported by the frame,
25 a mattress supported by the deck,
an actuator configured to move between first and second positions to move at least one of a portion of the frame and a portion of the deck, and
an electrical foot-operated control movable to a first position activating movement of the actuator to the first position and a second position activating
30 movement of the actuator to the second position.

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88. The patient support of claim 87, wherein the actuator includes an electric motor configured to move at least one of the portion of the frame and the portion of the deck.

89. The patient support of claim 88, wherein the electric motor
5 turns in a first direction when the foot-operated control is moved to the first position and in a second opposite direction when the foot-operated control is moved to the second position.

90. The patient support of claim 87, wherein the electrical foot-operated control includes a control member movable between first and second
10 positions and a sensor configured to detect movement of the control member.

91. The patient support of claim 90, wherein the sensor is configured to detect a change in a field caused by movement of the control member and detection of a change in the field causes movement of the actuator.

92. The patient support of claim 91, wherein the electrical foot-operated control includes a magnet coupled to the control member to move therewith
15 and the sensor is positioned to detect changes in a magnetic field caused by movement of the magnet.

93. The patient support of claim 90, wherein the foot-operated control includes a circuit board and the sensor is coupled to the circuit board.

94. The patient support of claim 87, further comprising another
20 actuator configured to move between first and second positions to move at least one of a portion of the frame and a portion of the deck, the electrical foot-operated control activates movement of the actuators to the first positions when moved to the first position, and the electrical foot-operated control activates movement of the actuator to
25 the second positions when moved to the second position.

95. The patient support of claim 87, wherein the actuator is configured to move in a first direction when moving to the first position and a second opposite direction when moving to the second position.

96. A patient support comprising
30 a frame,
a deck supported by the frame,
a mattress supported by the deck,

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an actuator configured to move at least one of a portion of the frame and a portion of the deck, and

a control configured to control movement of the actuator, the control including a control member and a field sensor configured to detect a change in a field
5 caused by a change in position of the control member to control operation of the actuator based upon the change in position of the control member.

97. The patient support of claim 96, wherein the field sensor is configured to detect a change in a magnetic characteristic of the field.

98. The patient support of claim 96, wherein the field sensor is
10 spaced apart from the control member.

99. The patient support of claim 98, wherein the control further includes a magnet coupled to the control member and the field sensor is configured to detect a change in position of the magnet caused by a change in position of the control member.

15 100. The patient support of claim 99, wherein the control member is a pedal positioned to be acted upon by a person's foot and the pedal is positioned to pivot between the first and second positions about a pivot axis.

101. The patient support of claim 100, wherein the pedal includes a pedal portion positioned to be acted upon by the person's foot and the pivot axis is
20 positioned between the pedal portion and the magnet.

102. The patient support of claim 100, wherein the control includes a circuit board supported by the frame and the field sensor is coupled to the circuit board.

103. The patient support of claim 96, wherein the actuator is
25 configured to move in a first direction when moving to the first position and a second opposite direction when moving to the second position.

104. A patient support comprising
a frame,
a deck supported by the frame,
30 a mattress supported by the deck,
a first actuator configured to move between first and second positions to move at least one of a portion of the frame and a portion of the deck,

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a second actuator configured to move between first and second positions to move at least one of a portion of the frame and a portion of the deck, and a foot-operated control movable to a first position to control movement of the first and second actuators to the first positions and a second position to control movement of the first and second actuators to the second positions.

105. The patient support of claim 104, wherein the first actuator is positioned to move a portion of the frame and the second actuator is positioned to move a portion of the frame simultaneously with movement of the other portion of the frame.

106. The patient support of claim 105, wherein the frame includes a base frame and an intermediate frame supported by the base frame and the first and second actuators are positioned move the intermediate frame relative to the base frame.

107. The patient support of claim 104, wherein the frame includes a base frame having first and second ends and an intermediate frame having first and second ends, the first actuator is positioned to move the first end of the intermediate frame relative to the first end of the base frame when the foot-operated control is in the first position and the second actuator is positioned to move the second end of the intermediate frame relative to the second end of the base frame when the foot-operated control is in the first position.

108. The patient support of claim 107, wherein the first actuator is positioned to move the first end of the intermediate frame relative to the first end of the base frame when the foot-operated control is in the second position and the second actuator is positioned to move the second end of the intermediate frame relative to the second end of the base frame when the foot-operated control is in the second position.

109. The patient support of claim 107, wherein the first actuator moves the first end of the intermediate frame toward the first end of the base frame when the foot-operated control is in the first position and the second actuator moves the second end of the intermediate frame toward the first end of the base frame when the foot-operated control is in the first position.

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110. The patient support of claim 104, wherein the first and second actuators are configured to move in a first direction when moving to the first position and a second opposite direction when moving to the second position.

5 111. A patient support comprising
a frame,
a plurality of wheels configured to support the frame and facilitate movement of the frame on the floor,
a deck supported by the frame,
a mattress supported by the deck,
10 an actuator configured to move at least one of a portion of the frame and a portion of the deck, and
an electrical foot-operated control configured to control movement of the actuator.

112. The patient support of claim 111, wherein the electrical foot-operated control is supported by the frame.

113 The patient support of claim 112, further comprising a housing coupled to the frame, wherein the electrical foot-operated control is coupled to the housing.

114. The patient support of claim 113, wherein the housing is supported by the frame in a position spaced-apart from the floor.

115. The patient support of claim 111, further comprising a first housing coupled to the frame to support the electrical foot-operated control on the frame, a second electrical foot-operated control configured to control movement of the actuator, and a second housing coupled to the frame in a position spaced apart from
25 the first housing, wherein the second housing supports the second electrical foot-operated control.

116. The patient support of claim 115, wherein the first and second housings are coupled to the frame in fixed positions.

117. The patient support of claim 111, wherein the actuator is
30 configured to move between first and second positions and the electrical foot-operated control is configured to move to a first position activating movement of the actuator to

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the first position and a second position activating movement of the actuator to the second position.

118. The patient support of claim 117, wherein the actuator is configured to move in a first direction when moving to the first position and a second
5 opposite direction when moving to the second position.

119. The patient support of claim 117, wherein the electrical foot-operated control is configured to move to a third position between the first and second positions and the electrical foot-operated control is configured to maintain the position of the actuator when in the third position.

10 120. A patient support comprising
a frame,
a deck supported by the frame,
a mattress supported by the deck,
an actuator configured to move at least one of a portion of the frame
15 and a portion of the deck, and
an electrical foot-operated control supported by the frame and
configured to control movement of the actuator.

121. The patient support of claim 120, further comprising a housing coupled to the frame and the electrical foot-operated control is coupled to the housing.

20 122. The patient support of claim 121, wherein the housing is supported by the frame in a position spaced-apart from the floor.

123. The patient support of claim 121, further comprising another electrical foot-operated control, wherein the housing includes at least two cavities and each of the foot-operated controls is positioned in one of the cavities.

25 124. The patient support of claim 120, further comprising a first housing coupled to the frame to support the electrical foot-operated control on the frame, a second electrical foot-operated control configured to control movement of the actuator, and a second housing coupled to the frame in a position spaced apart from the first housing, wherein the second housing supports the second electrical foot-
30 operated control.

125. The patient support of claim 124, wherein the first and second housings are coupled to the frame in fixed positions.

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126. The patient support of claim 120, wherein the actuator is configured to move between first and second positions and the electrical foot-operated control is configured to move to a first position activating movement of the actuator to the first position and a second position activating movement of the actuator to the
5 second position.

127. The patient support of claim 126, wherein the actuator is configured to move in a first direction when moving to the first position and a second opposite direction when moving to the second position.

128. The patient support of claim 126, wherein the electrical foot-
10 operated control is configured to move to a third position between the first and second positions and the electrical foot-operated control is configured to maintain the position of the actuator.

129. A patient support comprising
a frame,
15 a deck supported by the frame,
a mattress supported by the deck,
an actuator configured to move between first and second positions to move at least one of a portion of the frame and a portion of the deck,
a power source configured to apply power to the actuator to move
20 between the first and second positions, and
a foot-operated control movable to a first position initiating application of power from the power source to the actuator to move the actuator to the first position and a second position initiating application of power from the power source to the actuator to move the actuator to the second position.

25 130. The patient support of claim 129, wherein the foot-operated control includes a control member positioned to be moved between first and second positions by a person's foot and a sensor configured to detect a change in position of the control member to initiate application of power from the power source to the actuator.

30 131. The patient support of claim 130, wherein the sensor is spaced apart from the control member.

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132. The patient support of claim 129, wherein the actuator includes a motor and the power source provides electrical power to the motor to move the actuator between the first and second positions.

133. The patient support of claim 132, wherein the motor moves in a first direction to move the actuator to the first position and a second opposite direction to move the actuator to the second position.

134. The patient support of claim 129, wherein the actuator is coupled to the deck to move a portion of the deck between first and second positions.

135. The patient support of claim 129, wherein the frame includes an intermediate frame supporting the deck and a base frame supporting the intermediate frame and the actuator is positioned to move the intermediate frame relative to the base frame.

136. The patient support of claim 129, further comprising a plurality of wheels supporting the frame on the floor.

137. A patient support comprising a frame, a deck supported by the frame, and a mattress supported by the deck, the mattress including a retractable foot portion configured to have an adjustable length, the retractable foot portion including a foam portion and a heel-pressure relief portion.

138. The patient support of claim 137, wherein foam portion of the retractable foot portion of the mattress includes a cavity and the heel-pressure relief portion is positioned in the cavity.

139. The patient support of claim 137, wherein the retractable foam portion of the mattress includes an upwardly facing surface, a downwardly facing surface, a plurality of transversely extending slots formed in the upwardly facing surface, and a plurality of transversely extending slots formed in the downwardly facing surface.

140. The patient support of claim 137, wherein the heel-pressure relief portion includes an air bladder and an air supply coupled to the air bladder.

141. The patient support of claim 140, wherein the air supply is a compressor.

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142. The patient support of claim 140, wherein the air supply includes a valve configured to move between first and second positions, the bladder is at a first pressure when the valve is in the first position, and the bladder is a second lower pressure when the valve is in the second position.
- 5 143. The patient support of claim 137, wherein the heel-pressure relief portion is coupled to the foam portion.
144. The patient support of claim 137, wherein the mattress further includes a head portion and a seat portion coupled to the head and foot portions, the foot portion is configured to move relative to the head and seat portions during
10 adjustment of the length of the foot portion of the mattress.
145. A mattress configured to support a patient, the mattress comprising
- a head portion,
- a seat portion, and
- 15 a retractable foot portion, the head, seat, and foot portions cooperating to define a patient rest surface, the retractable foot portion having an adjustable length, the retractable foot portion having a main body and a heel-pressure relief portion, the main body having a cavity sized to received the heel-pressure relief portion.
146. The mattress of claim 145, wherein main body of the foot
20 portion of the mattress is made of a foam material.
147. The mattress of claim 145, wherein the main body includes an upwardly facing surface, a downwardly facing surface, a plurality of transversely extending slots formed in the upwardly facing surface, and a plurality of transversely extending slots formed in the downwardly facing surface.
- 25 148. The mattress of claim 147, wherein the slots formed in the upwardly facing surface are positioned longitudinally between the slots formed in downwardly facing surface.
149. The mattress of claim 145, wherein the heel-pressure relief portion includes a bladder and an air supply coupled to the bladder.
- 30 150. The mattress of claim 149, wherein the air supply is a compressor.

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151. The mattress of claim 149, wherein the air supply includes a valve configured to move between first and second positions, the bladder is at a first pressure when the valve is in the first position, and the bladder is at a second lower pressure when the valve is in the second position.

5 152. The mattress of claim 145, wherein the foot portion is configured to move relative to the head and seat portions during adjustment of the length of the foot portion.

153. A mattress configured to support a patient, the mattress comprising
10 a head portion,
a seat portion, and
a foot portion having an adjustable length, the head, seat, and foot portions cooperating to define a patient rest surface having an adjustable length, the foot portion including an adjustable length foam portion and a heel-pressure relief
15 portion having a stiffness less than the stiffness of the foam portion.

154. The mattress of claim 153, wherein the foam portion includes a cavity and the heel-pressure relief portion is positioned in the cavity.

155. The mattress of claim 153, wherein the foam portion includes an upwardly facing surface, a downwardly facing surface, a plurality of transversely
20 extending slots formed in the upwardly facing surface, and a plurality of transversely extending slots formed in the downwardly facing surface.

156. The mattress of claim 153, wherein the heel-pressure relief portion includes a bladder and an air supply coupled to the bladder.

25 157. The mattress of claim 156, wherein the air supply is a compressor.

158. The mattress of claim 156, wherein the air supply includes a valve configured to move between first and second positions, the bladder is at a first pressure when the valve is in the first position, and the bladder is at a second lower pressure when the valve is in the second position.

30 159. The mattress of claim 153, wherein the foot portion is configured to move relative to the head and seat portions during adjustment of the length of the foot portion.

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160. A method for support a patient on a patient support, the method comprising the steps of

providing a patient support having an adjustable length, a foam calf support, and a heel-pressure relief portion that has a stiffness less than the stiffness of
5 the foam calf support and

adjusting the length of the patient support to position the foam calf support under a patient's calves and the heel-pressure relief portion under a patient's heels.

161. The method of claim 160, wherein the heel-pressure relief
10 portion includes a bladder and further comprising the step of adjusting the pressure of the bladder to lower the stiffness of the heel-pressure relief portion.

162. The method of claim 160, wherein the foam calf support includes a plurality of transversely extending slots that narrow during the adjusting step.

163. The method of claim 160, wherein the overall length of the
15 foam calf support changes during the adjustment step.

164. The method of claim 163, wherein the overall width of the heel-pressure relief portion remains substantially constant during the adjustment step.

165. A patient support comprising
20 a frame,
a deck supported by the frame, the deck including a head section configured to move relative to the frame and a foot section having an adjustable length,

a controller configured to change the length of the foot section to
25 correspond to the position of the head section of the deck, the foot section of the deck remaining substantially horizontal during the change of the length of the foot section, and

a mattress supported by the deck.

166. The patient support of claim 165, wherein the head section of
30 the deck is configured to move between raised and lowered positions and the controller is configured to correspond the length of the foot section with the position of the head section of the deck.

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167. The patient support of claim 166, wherein controller is configured to increase the length of the foot section of the deck during raising of the head section of the deck.

168. The patient support of claim 166, wherein the controller is
5 configured to decrease the length of the foot section of the deck during lowering of the head section of the deck.

169. The patient support of claim 166, wherein the controller is configured to simultaneously correspond the length of the foot section of the deck with the position of the head section of the deck.

10 170. The patient support of claim 165, wherein the controller includes a sensor positioned to detect movement of the head section of the deck, the sensor sends a signal that activates adjustment of the length of the foot section upon detection of the movement of the head section.

171. The patient support of claim 165, wherein the controller is
15 configured to automatically extend the foot section upon raising of the head section.

172. The patient support of claim 171, wherein the controller is configured to automatically retract the foot section upon lowering of the head section.

173. The patient support of claim 165, wherein the mattress includes
20 a head portion positioned over the head section of the deck and an adjustable length foot portion positioned over the foot section of the deck.

174. The patient support of claim 173, wherein the foot portion of
the mattress includes a heel-pressure relief bladder configured to operate at a first pressure to support a patient's heel in a first position relative to the deck and a second lower pressure configured to support the patient's heel in a second position relative to
25 the deck.

175. The patient support of claim 173, wherein the foot portion of the mattress includes a foam portion and a heel-pressure relief portion having a stiffness less than a stiffness of the foam portion.

176. The patient support of claim 175, wherein the foam portion has
30 a length that is adjustable with the length of the foot section of the deck.

177. The patient support of claim 175, wherein the foam portion includes a plurality of transversely extending slots.

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178. A patient support comprising
a frame,
a deck supported by the frame, the deck including a head section and a
foot section, the head section being configured to raise and lower relative to the frame,
5 and

a mattress supported by the deck, the mattress having a head portion
positioned over the head section of the deck and an adjustable length foot portion
positioned over the foot section of the deck, the length of the foot portion of the
mattress being configured to increase in length to correspond to raising of the head
10 section of the deck.

179. The patient support of claim 178, further comprising a
controller configured to increase the length of the foot portion of the mattress when
the head section of the deck is raised.

180. The patient support of claim 178, wherein the controller
15 includes a sensor configured to detect the position of the head section relative to the
frame.

181. The patient support of claim 178, wherein the length of the foot
portion of the mattress decrease with the lowering of the head section.

182. The patient support of claim 178, wherein the length of the foot
20 portion of the mattress simultaneously corresponds with the position of the head
portion of the mattress.

183. The patient support of claim 178, further comprising a sensor
positioned to detect movement of the head portion of the mattress, the sensor sends a
signal that activates adjustment of the length of the foot portion of the mattress upon
25 detection of the movement of the head section.

184. The patient support of claim 178, wherein the foot portion of
the mattress automatically extends upon raising of the head portion of the mattress.

185. The patient support of claim 184, wherein the foot portion of
the mattress automatically retracts upon lowering of the head portion of the mattress.

186. The patient support of claim 178, wherein the foot portion of
30 the mattress includes a heel-pressure relief bladder configured to operate at a first
pressure to support a patient's heel in a first position relative to the deck and a second

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lower pressure configured to support the patient's heel in a second position relative to the deck.

187. The patient support of claim 178, wherein the foot portion of the mattress includes a foam portion and a bladder.

5 188. The patient support of claim 178, wherein the foot portion of the mattress includes a foam portion having a plurality of transversely extending slots.

189. The patient support of claim 188, wherein the foam portion includes raised perimeter blocking movement of a patient's foot off of the foam portion..

10 190. A patient support comprising
a frame,
a deck supported by the frame, the deck includes a head section, a seat section, and a foot section, the head section being configured to raise and lower relative to the frame, and

15 a mattress supported by the deck, the mattress having a head portion positioned over the head section of the deck and a foot portion having a heel-pressure relief portion, the position of the heel-pressure relief portion corresponding to the position of the head section relative to the frame.

20 191. The patient support of claim 190, wherein the heel-pressure relief portion is moved away from the seat section when the head section of the deck is raised.

192. The patient support of claim 190, wherein the heel-pressure relief portion includes a pressurized volume that provides reduced surface pressure for the patient's heel.

25 193. The patient support of claim 192, wherein the pressurized volume is moved away from the seat section of the deck as the head section is raised.

194. The patient support of claim 192, wherein the pressurized volume is defined by a single air bladder.

30 195. A method of maintaining heel-pressure relief of a patient, the method comprising the step of

providing a patient support including a frame, a deck supported by the frame and having a foot section and a head section movable between first and second

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positions relative to the frame, and a mattress having a foot portion positioned over the foot section of the deck and a head section positioned over the head section of the deck, the foot portion having a heel-pressure relief portion configured to reduce the surface pressure on a patient's heel and

5 corresponding the position of the heel-pressure relief portion of the mattress with the position of the head section of deck to maintain the position of the heel-pressure relief portion under the patient's heel.

196. The method of claim 195, wherein the corresponding step is performed by a controller.

10 197. The method of claim 195, wherein the foot section of the deck has a length that is adjusted during the corresponding step.

198. The method of claim 197, wherein the length of the foot section of the deck is increased during raising of the head section of the deck to correspond the position of the heel-pressure relief portion of the mattress with the position of the head section of the deck.

15 199. The method of claim 198, wherein the length of the foot section of the deck is decreased during lowering of the head section of the deck to correspond the position of the heel-pressure relief portion of the mattress with the position of the head section of the deck.

20 200. The method of claim 197, wherein the length of the foot section is automatically adjusted with a change in position of the head section relative to the frame.

25 201. The method of claim 195, wherein the heel-pressure relief portion includes a pressurized volume and the pressurized volume is moved during the corresponding step.

202. A patient support comprising
a frame,
a mattress positioned over the frame, and
a barrier positioned to block egress of a person from the mattress, the
30 barrier being made of a non-opaque material.

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203. The patient support of claim 202, further comprising a light source positioned to introduce light into the barrier made of non-opaque material to illuminate the barrier.

5 204. The patient support of claim 202, wherein the barrier is a siderail.

205. The patient support of claim 202, wherein the barrier is a headboard.

10 206. A patient support comprising
a frame,
a mattress positioned over the frame, and
a siderail including a rail member configured to move from a first position to a second position, the rail member having an inner side facing the mattress and an outer side facing away from the mattress, the siderail further including a retainer configured to hold the rail member in the first position and a patient-
15 accessible release configured to permit movement of the siderail from the first position, the patient-accessible release being accessible to a person normally positioned on the mattress.

20 207. A patient support comprising
a frame,
a mattress positioned over the frame, and
a siderail including a rail member configured to move from a first position to a second position, a retainer configured to hold the rail member in the first position, a release configured to permit movement of the siderail from the first position, and a lock configured to prevent the release from permitting movement of
25 the rail member from the first position.

208. A patient support comprising
a frame,
a mattress positioned over the frame, and
a siderail including a rail member configured to move from a first
30 position to a second position, a retainer configured to hold the rail member in the first position, a first release configured to permit movement of the siderail from the first

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position, and second release configured to permit movement of the siderail from the first position.

209. A patient support comprising
a frame,
5 a mattress positioned over the frame, and
a siderail including a rail member configured to move from a first position blocking egress of a person positioned on the mattress to a second position and an armrest arranged to support an arm of the person positioned on the mattress.

210. A patient support comprising
10 a frame,
a mattress positioned over the frame, and
a siderail including a rail member configured to move from a first position blocking egress of a person positioned on the mattress to a second position and a container holder configured to support a container.

211. A patient support comprising
15 a frame,
a mattress positioned over the frame,
a barrier positioned to block egress of a patient from the mattress, and
a wireless controller configured to couple to the barrier, the wireless
20 controller being configured to control a function of the patient support.

212. A patient support comprising
a frame,
a mattress positioned over the frame,
a first siderail positioned to block egress of a patient from the mattress,
25 the first siderail including a first end and a second end spaced apart from the first end,
and

a second siderail positioned to block egress of a patient from the mattress, the first siderail being configured to move between first and second positions relative to the second siderail, the second siderail including an upper edge
30 having a concave portion arranged to receive the first end of the first siderail when in the second position.

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213. A patient support comprising
a frame,
a mattress positioned over the frame, the mattress defining a
substantially horizontal plane,
5 a first siderail positioned to block egress of a patient from a first side of
the mattress, the first siderail being configured to tilt inward toward the mattress to
define an acute angle with the horizontal plane defined by the mattress, and
a second siderail positioned to block egress of a patient from a second
side of the mattress, the second siderail being configured to tilt inward toward the
10 mattress to define an angle with the horizontal plane defined by the mattress.
214. A patient support comprising
a frame,
a mattress positioned over the frame,
a barrier positioned to block egress of a patient positioned on the
15 mattress,
a CPR panel configured to be positionable under a patient positioned
on the mattress to facilitate administering CPR on the patient, and
a CPR panel retention member arranged to retain lower corners of the
CPR panel adjacent to the barrier.
- 20 215. A patient support comprising
a frame,
a mattress positioned over the frame, and
a barrier positioned to block egress of a patient positioned on the
mattress, the barrier including a perimeter frame member and a screen coupled to the
25 perimeter frame member, the perimeter frame member defining an opening, the screen
including a tubular sleeve defining a passage sized to slidably receive the perimeter
frame member and a panel coupled to the sleeve to extend across the opening defined
by the perimeter frame member.
- 30 216. A patient support comprising
a frame,
a mattress supported by the frame,
a footboard supported by the frame,

a headboard supported by the frame, and
a controller pivotably coupled to at least one of the headboard and
footboard.

5 217. A patient support comprising
a frame,
a mattress supported by the frame,
a footboard supported by the frame, and
a headboard supported by the frame, at least one of the headboard and
footboard being removable from a normally vertical blocking position blocking egress
10 of a patient from the mattress and a horizontal table position positioned over the
mattress.

 218. A patient support comprising
a frame,
a mattress supported by the frame,
15 a footboard supported by the frame,
a headboard supported by the frame,
a siderail supported by the frame, and
a gap filler coupled to at least one of the footboard and headboard to
block egress of a patient through a gap defined between said at least one of the
20 footboard and headboard and the siderail.

 219. A patient support comprising
a frame,
a deck supported by the frame, the deck including an upper deck
portion, a lower deck portion coupled to the upper deck portion by a slanted deck side
25 wall so that the lower deck portion is spaced apart from the upper deck to define a
central, longitudinal recess in the deck, the lower deck portion extending across the
deck to provide a lower deck support surface, and

a mattress supported by the deck.
 220. A patient support comprising
30 a frame,
a deck supported by the frame, the deck including a foot section, a
back section pivotably coupled to the frame to move between first and second

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positions relative to the frame, and a head section pivotably coupled the back section to move between first and second positions, and

a mechanism configured to control movement of the back and head sections, the mechanism being configured to move between a first position wherein the head section remains substantially horizontal with the back section when the back section is moved from the first position to the second position and a second position wherein the head section tilts relative to the back section when the back section is moved from the first position to the second position.

221. A patient support comprising
a frame,
a deck supported by the frame, the deck including a seat section pivotably coupled to the frame to move between first and second positions and a foot section pivotably coupled to the seat section to move between first and second positions, and

a mechanism configured to control movement of the foot section relative to the seat section, the mechanism being configured to move between a first position wherein the foot section remains substantially horizontal when the seat section moves from the first position to the second position and a second position wherein the foot section deviates from being substantially horizontal when the seat section moves from the first position to the second position.

222. A patient support comprising
a frame,
a deck supported by the frame, the deck including a pair of spaced-apart sidewalls and a support member extending between the side walls, and
a mattress supported by the support member, the support member being configured to move relative to at least one of the side walls to permit deflection thereof when a patient is positioned on the mattress.

223. A patient support comprising
a frame,
a deck supported by the frame, the deck including a head end and a foot end spaced apart from the head end,
a mattress supported by the deck, and

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at least one hand grip coupled to the head end of the deck.

224. A patient support comprising

a frame including a base frame, an intermediate frame, and a plurality of lift arms configured to support the intermediate frame on the base frame, the
5 plurality of lift arms being slidably coupled to the base frame by a plurality of roller positioned in the base frame,

a plurality of wheels coupled to the base frame to facilitate movement of the base frame, and

a wheel control link positioned in the base frame to facilitate
10 simultaneous control of the plurality of wheels.

225. A patient support comprising

a frame including a base frame, an intermediate frame, and a plurality of lift arms configured to move the intermediate frame relative to the base frame,

a deck supported by the intermediate frame,

15 a headboard coupled to the base frame, and

a footboard supported by the intermediate frame.

226. The patient support of claim 225, wherein the footboard is coupled to the deck.

227. A patient support comprising

20 a frame having a longitudinal axis,

a deck supported by the frame,

a mattress supported by the deck,

a first wheel positioned to support a head end of the frame at a first longitudinal location,

25 a second wheel positioned to support a foot end of the patient support at a second longitudinal location, and

a pedal supported by the frame at a third longitudinal location, the pedal being configured to control at least one of the first and second wheels, the first longitudinal location being positioned between the second and third longitudinal

30 locations.

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228. A patient support comprising
a frame having a base frame, an intermediate frame, and a plurality of
lift arms configured to support the intermediate frame on the base frame and to permit
movement of the intermediate frame between first and second positions relative to the
5 base frame,

a deck supported by the intermediate frame, and
a shroud supported by the base frame, the shroud including at least one
opening therein configured to permit movement of at least one other component of the
patient support in the opening when the intermediate frame moves between the first
10 and second positions.

229. A patient support comprising
a frame,
a mattress supported by the frame, and
a barrier supported by the frame, the barrier being configured to move
15 between a raised position blocking egress of a patient positioned on the mattress and a
lowered position, the barrier being configured to move along a longitudinal axis when
moved between the raised and lowered positions.

230. A patient support comprising
a frame,
20 a mattress supported by the frame,
a first barrier positioned to block egress of a patient from the mattress,
the first barrier including a first pocket formed therein,
a second barrier positioned to block egress of a patient from the
mattress, the second barrier including a second pocket formed therein, and
25 a controller configured to be removably received in the first pocket of
the first barrier and removably received in the second pocket of the second barrier.

231. The patient support of claim 230, further comprising a
controller mount configured to be removably received in the first and second pockets,
wherein the controller is coupled to the controller mount.

30 232. A patient support comprising
a frame,
a mattress supported by the frame, and

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a controller including a key control button and a plurality of input control buttons, each of the plurality of input control buttons being configured to receive commands from a user to control a function of the patient support, the key control button being configured to enable and disable the plurality of input control
5 buttons to control the functions of the patient support.

233. A patient support comprising
a frame having a longitudinal axis,
a deck supported by the frame,
a mattress supported by the deck,
10 a first pair of wheels positioned to support a head end of the frame at a first longitudinal location,
a second pair of wheels positioned to support a foot end of the patient support at a second longitudinal location, each of the first and second pairs of wheels including a blocking devices configured to block at least one of the rotation or
15 pivoting of the first and second wheels,

a plurality of transfer links configured to coordinate operation of the blocking devices of the first and second pairs of wheels, and
a rod positioned at a third longitudinal location longitudinally spaced apart from the first and second longitudinal locations, the rod extending transversely
20 between at least two of the plurality of transfer links to coordinate movement thereof.

234. A mattress for use with a patient support, the mattress comprising
a patient support surface having a longitudinal axis and
a crowning bladder configured to move between a first position
25 wherein the patient support surface is substantially flat and a second position creating a crown in patient support surface positioned on the longitudinal axis thereof.

235. A mattress for use with a patient support, the mattress comprising
a patient support surface and
30 a firming bladder including a plurality of cells configured to move between a first position having a first firmness and a second position having a second

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firmness greater than the first firmness to provide substantially firm support for the patient support surface.

236. A mattress for use with a patient support, the mattress comprising

5 a cover defining a patient support surface and an interior region and a vibration motor positioned in the cover to provide vibrations to the patient support surface.

237. A mattress for use with a patient support, the mattress comprising

10 a head section,
a seat section, and
a foot section, the head, seat, and foot sections cooperating to define a patient support surface, at least on of the head, seat, and foot sections including a fence configured to block movement of the patient off of the patient support surface.

15 238. The mattress of claim 237, further comprising a cover defining an interior region and the head, seat, and foot sections are positioned in the interior region.

239. The mattress of claim 237, wherein the foot section includes the fence.

20 240. A pressure system for use with a mattress of a patient support, the mattress including a bladder, the pressure system comprising

a pressure source,
a pressure regulator configured to maintain a pressure of fluid in the bladder of the mattress within a predetermined range, and
25 a conduit configured to deliver fluid to the bladder from the pressure source when the pressure of the fluid in the bladder is below the predetermined range and remove fluid from the bladder when the pressure of the fluid is above the predetermined range.

241. A frame for a patient support comprising
30 a base frame,
an intermediate frame, and

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at least three lift arms configured to support the intermediate frame on the base frame and to permit movement of the intermediate frame between first and second positions relative to the base frame, each of the lift arms including a first link coupled to the base frame, a second link coupled to the intermediate frame, a third
5 link pivotably coupled to the first and second links, and a fourth link pivotably coupled to the first and second links.

242. A frame for a patient support comprising
a base frame,
an intermediate frame, and
10 a plurality of lift arms configured to support the intermediate frame on the base frame and to permit movement of the intermediate frame between first and second positions relative to the base frame, each of the lift arms including first and second links, the first link being pivotably coupled to the base frame and pivotably coupled to the intermediate frame, the second link being pivotably coupled to the first
15 link and pivotably coupled to at least one of the base frame and intermediate frame.

243. A frame for a patient support comprising
a base frame,
an intermediate frame, and
at least one lift arm configured to support the intermediate frame on the
20 base frame and to permit movement of the intermediate frame between first and second positions relative to the base frame, at least one of the base and intermediate frames being configured to nest within the other of the at least one of the base and intermediate frames.

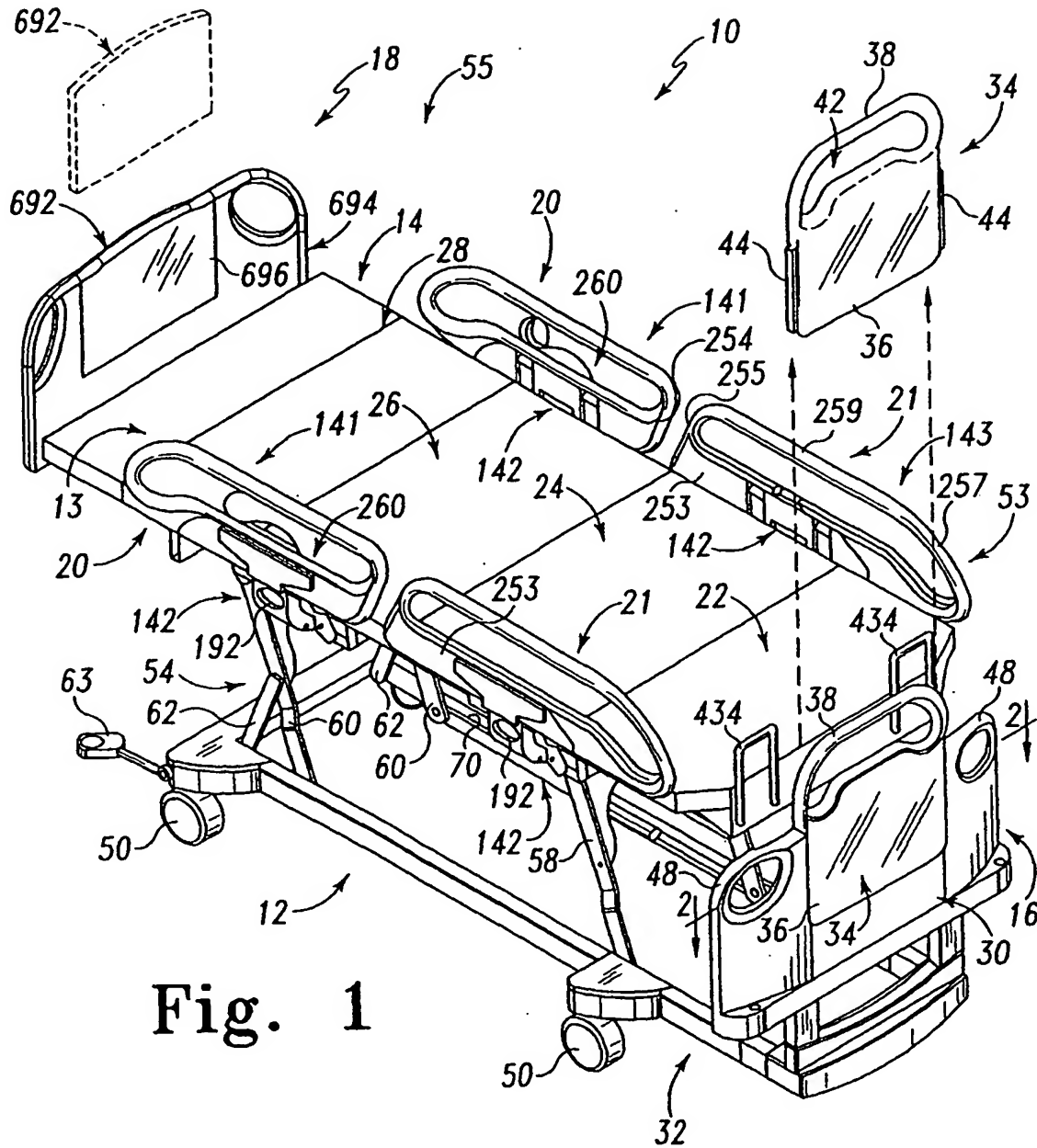


Fig. 1

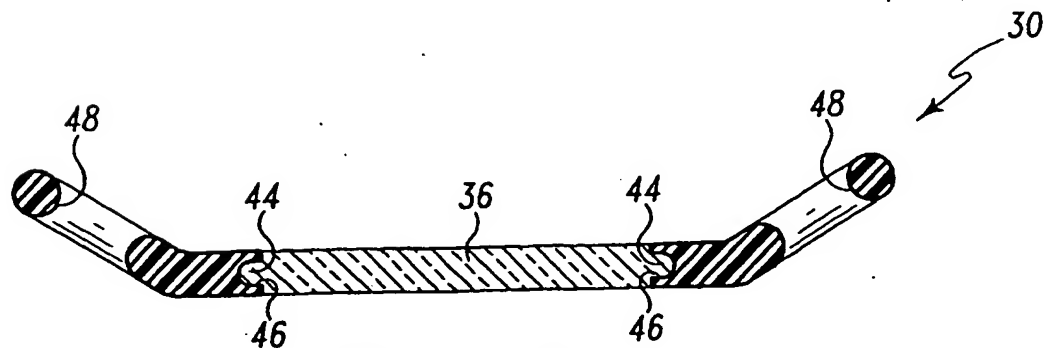
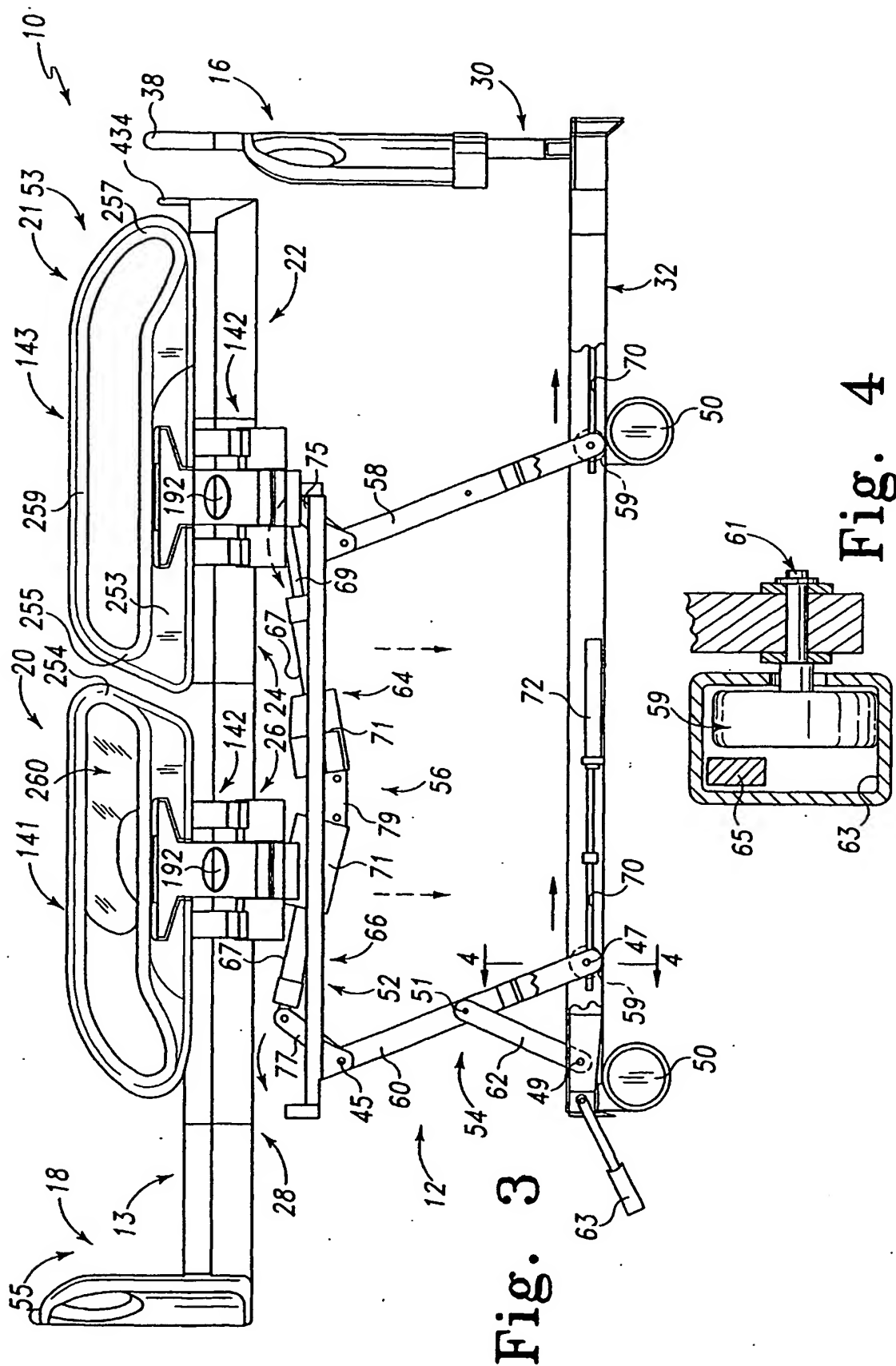


Fig. 2



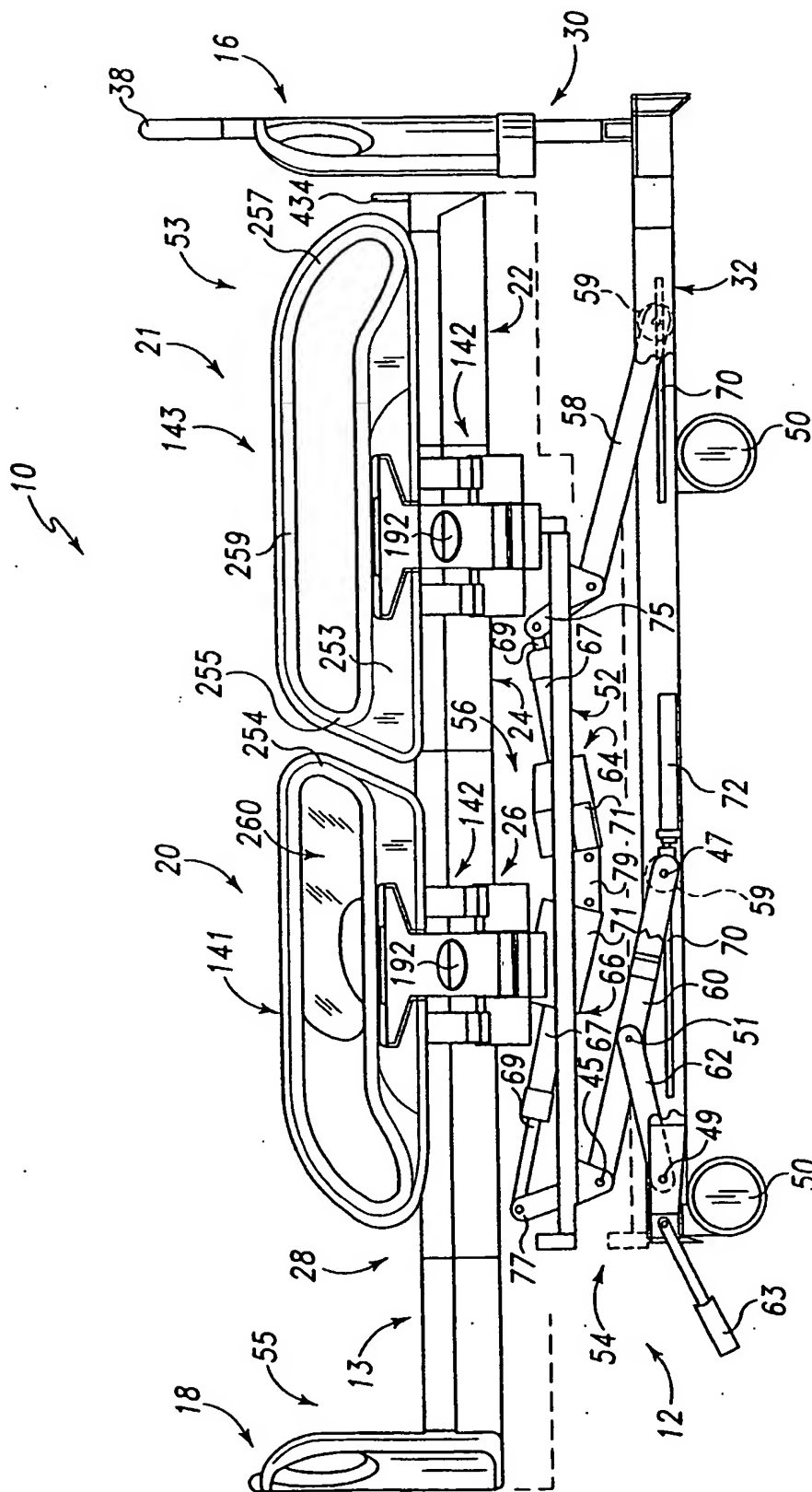


Fig. 5

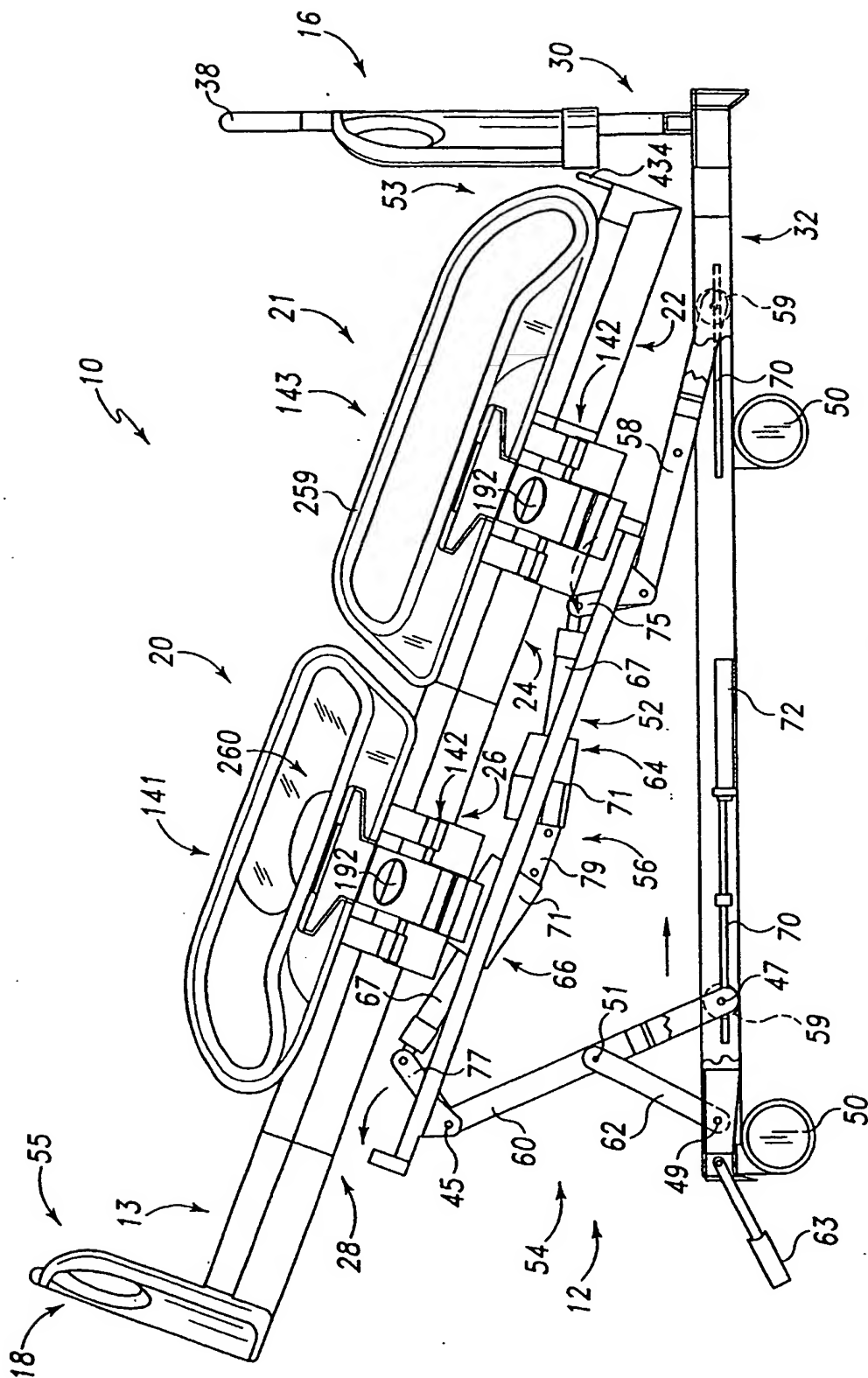


Fig. 6

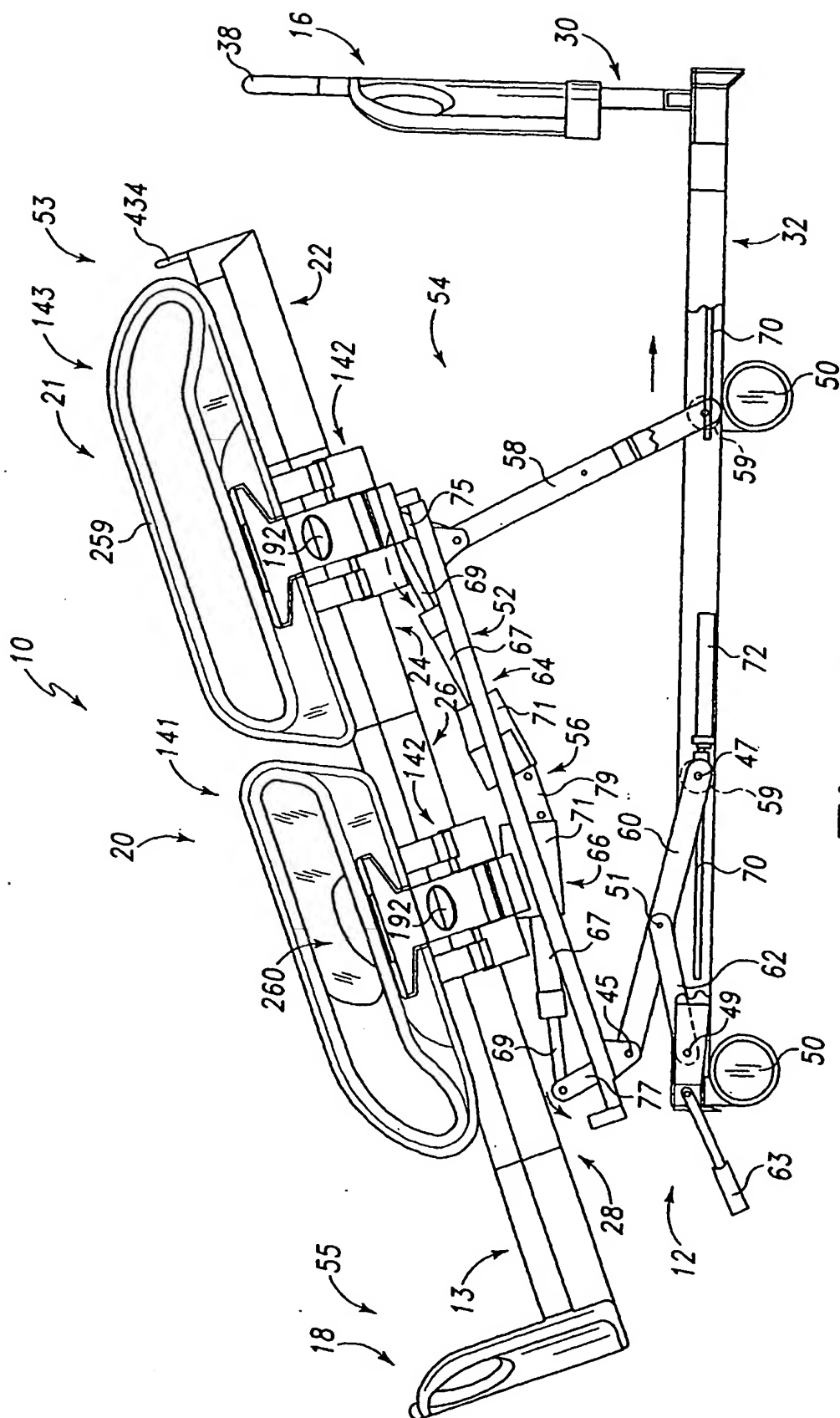


Fig. 7

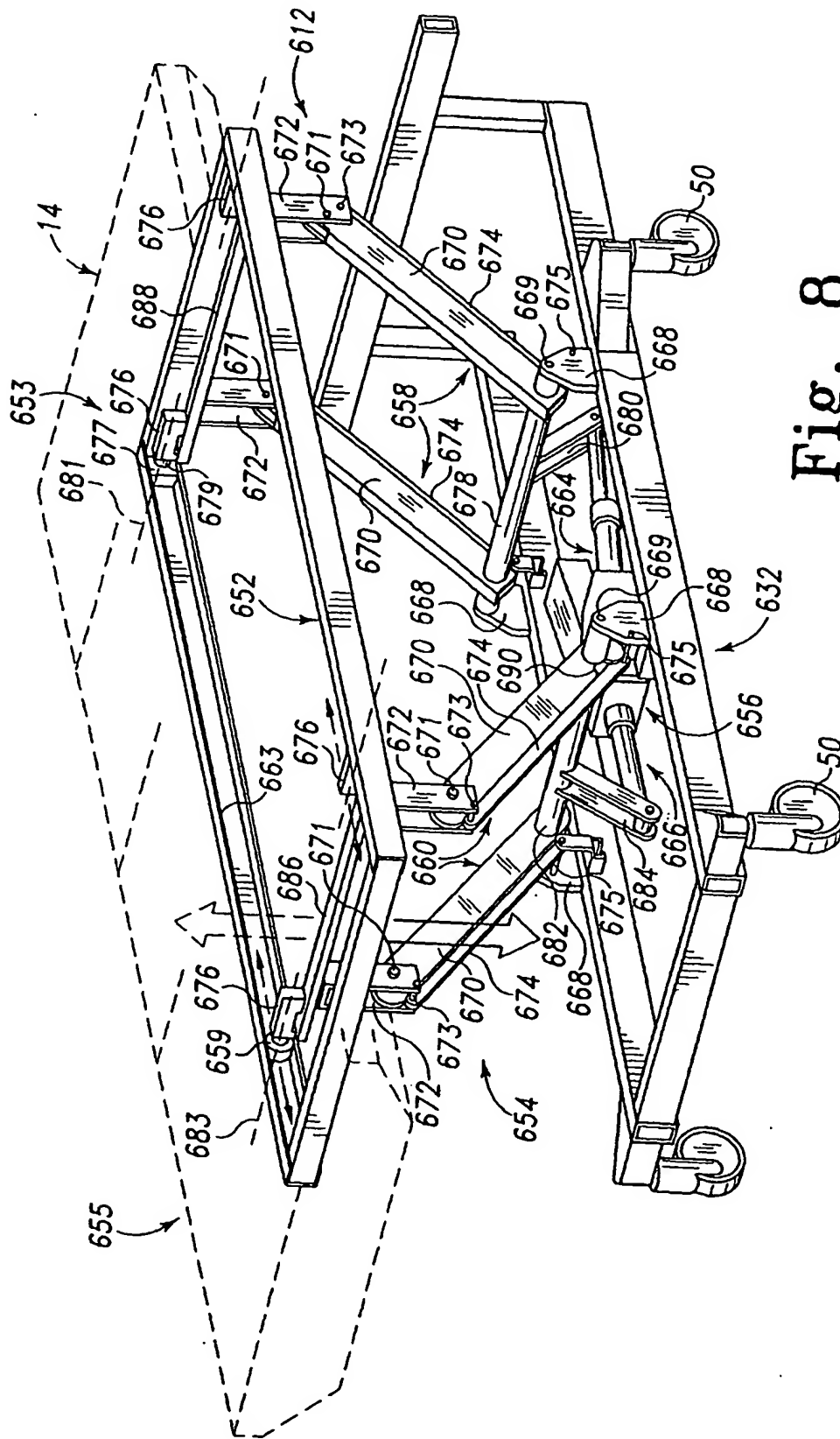


Fig. 8

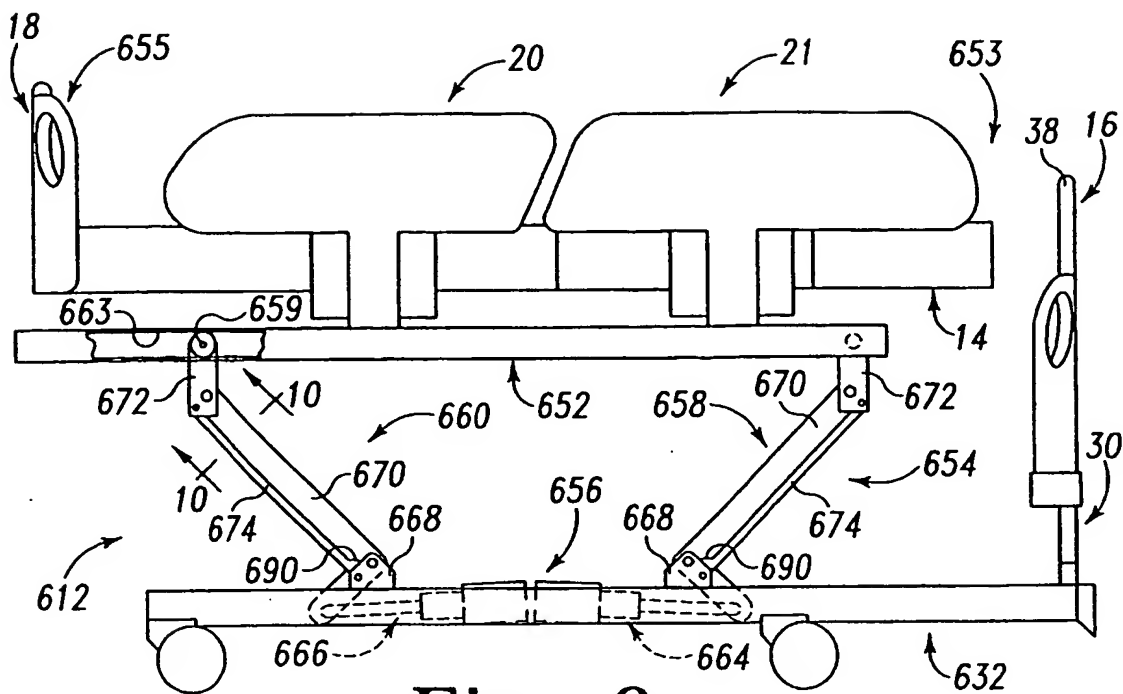


Fig. 9

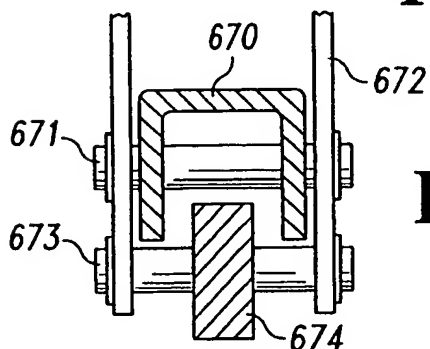


Fig. 10

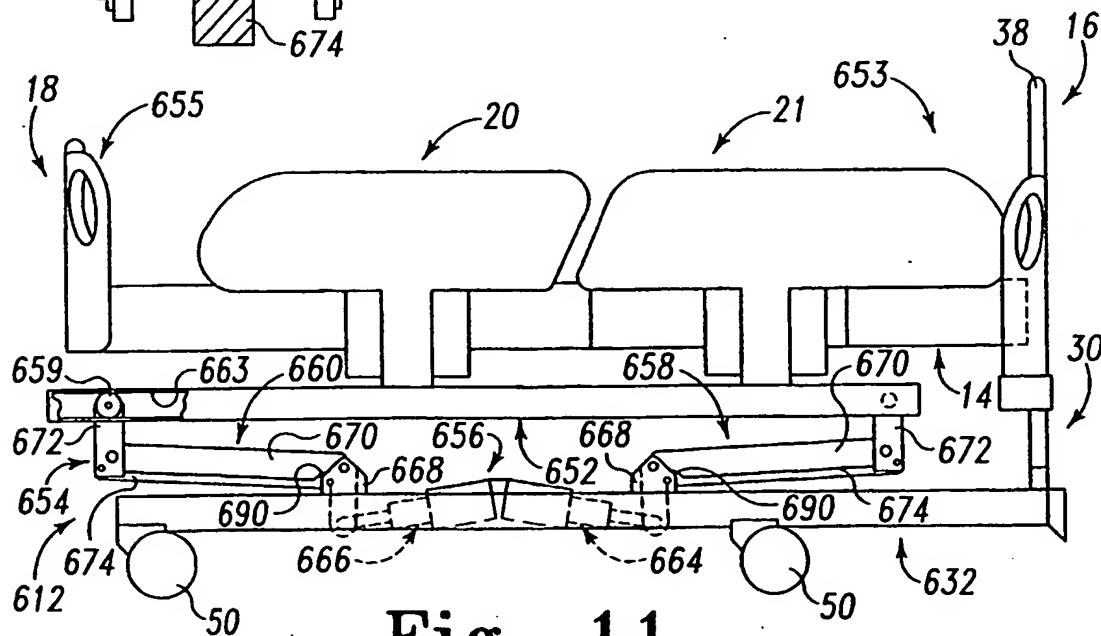


Fig. 11

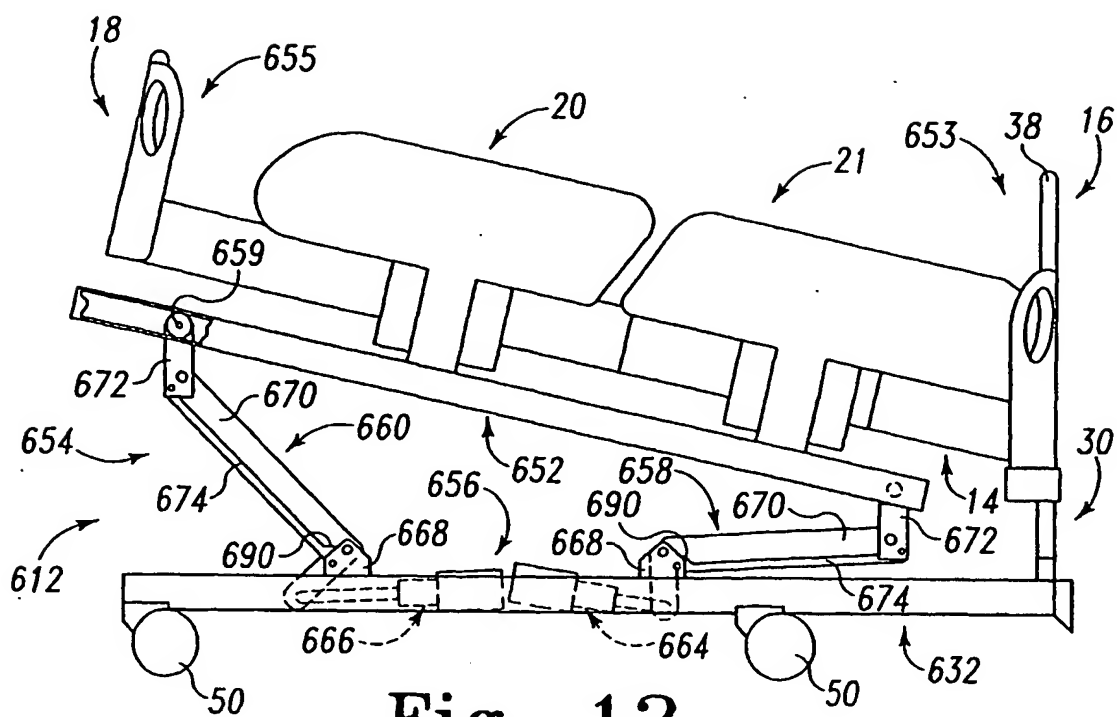


Fig. 12

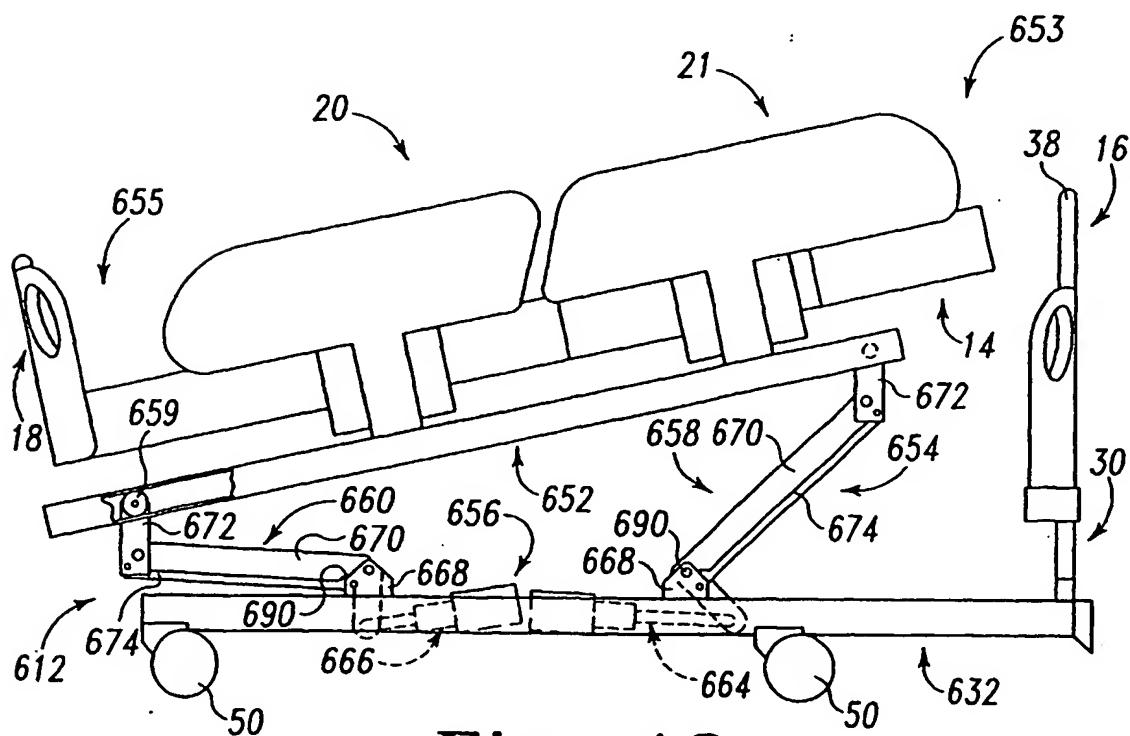


Fig. 13

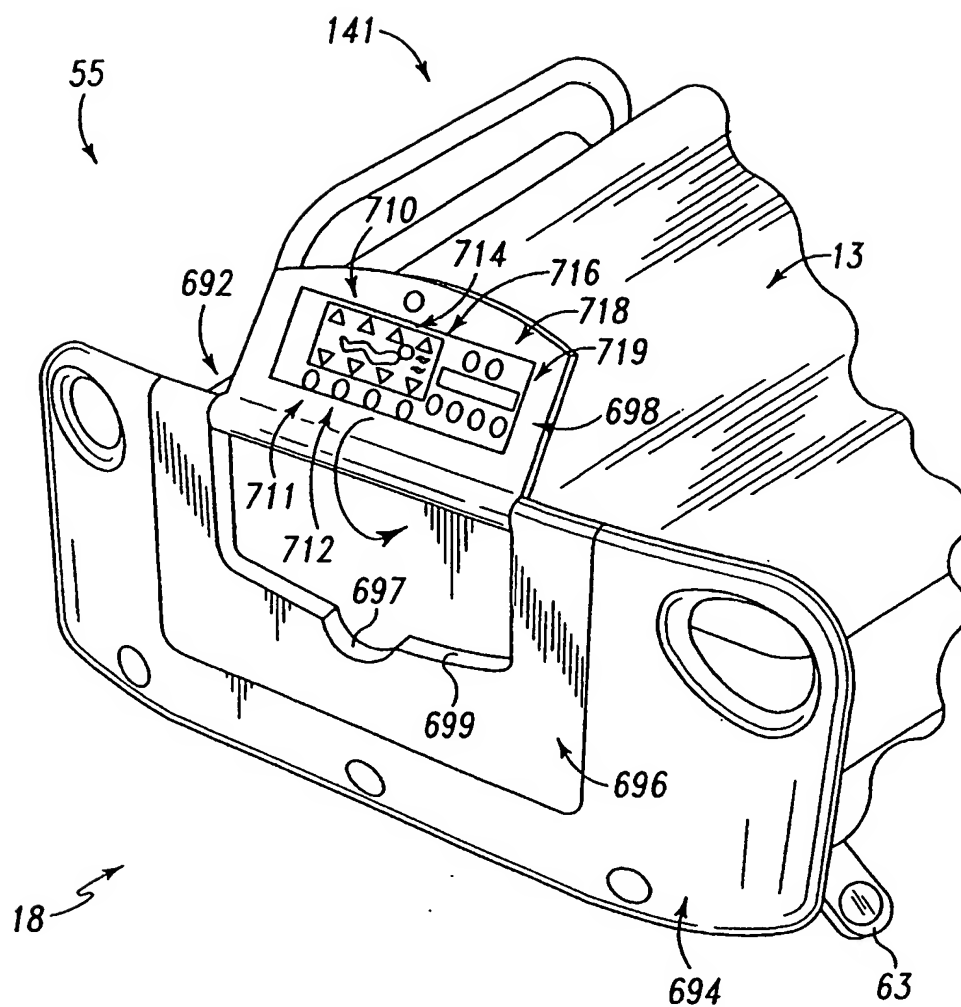


Fig. 14

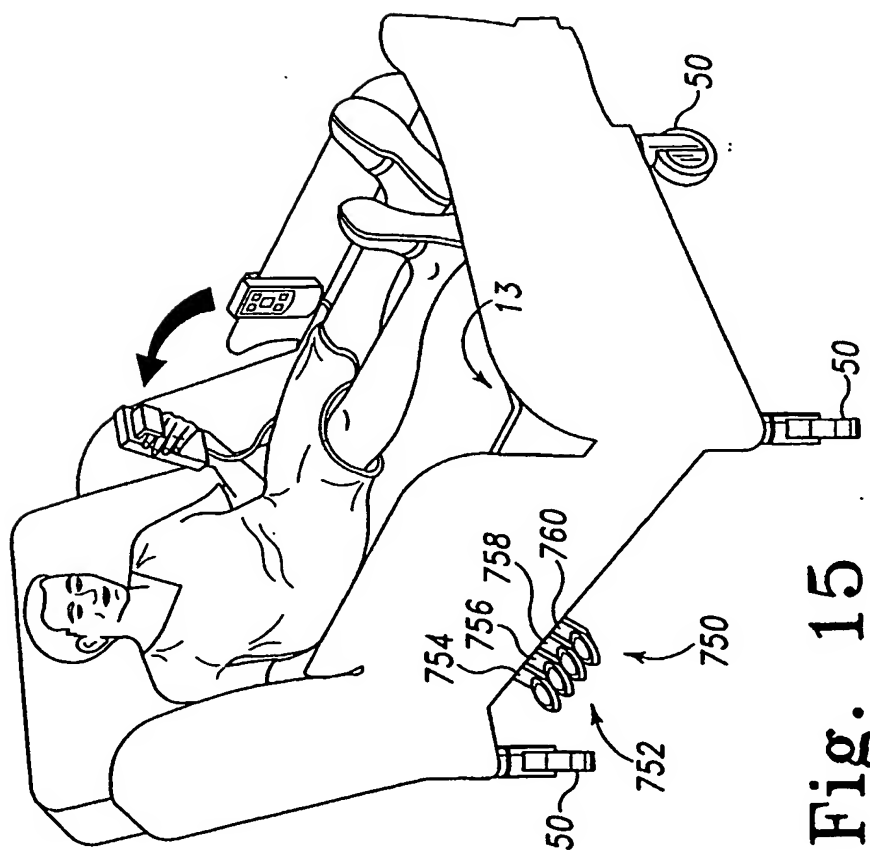


Fig. 15

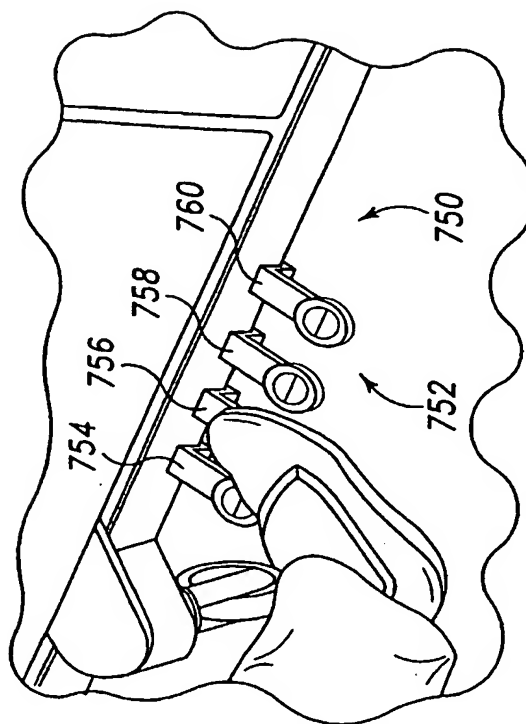
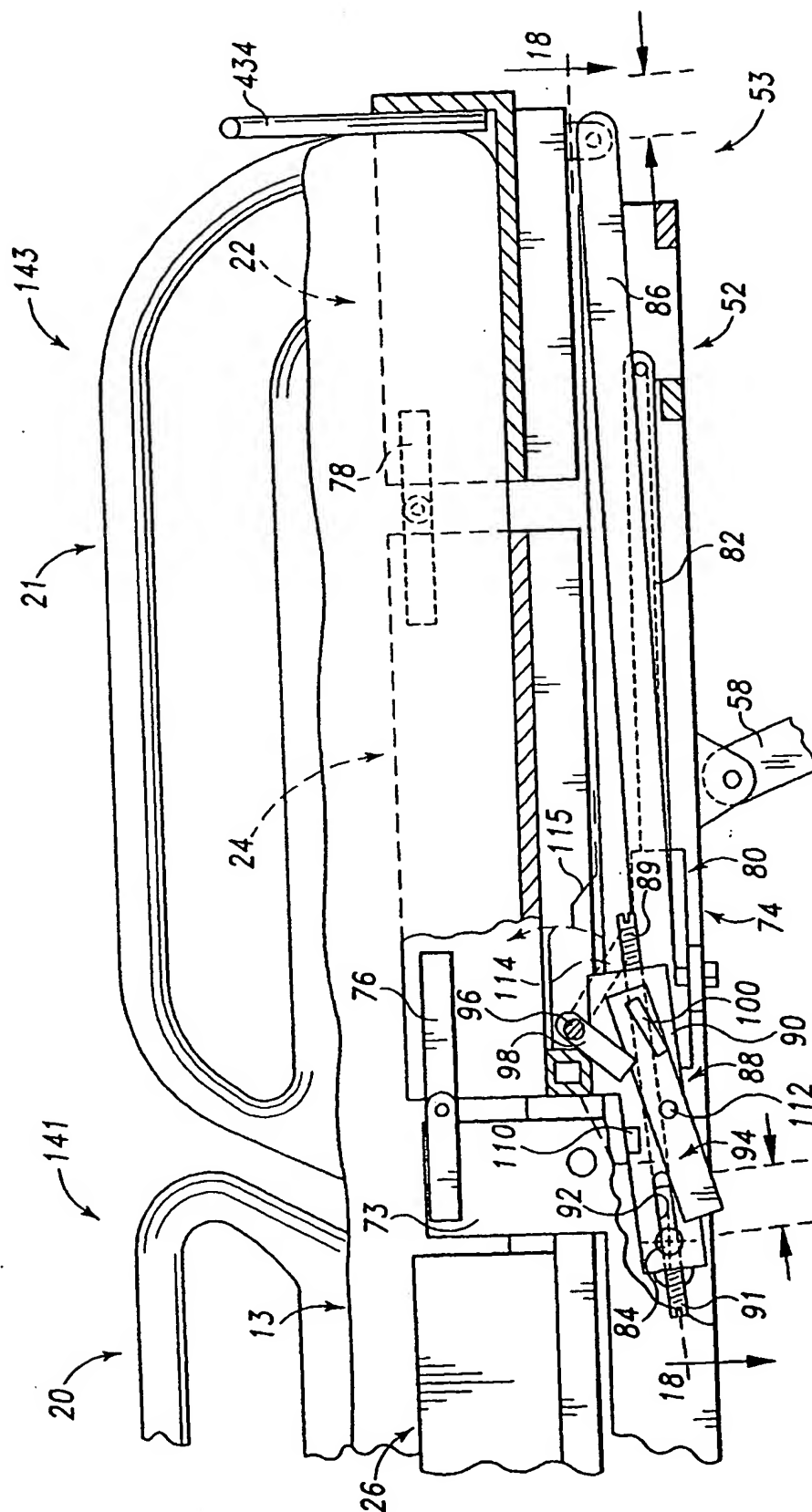


Fig. 16



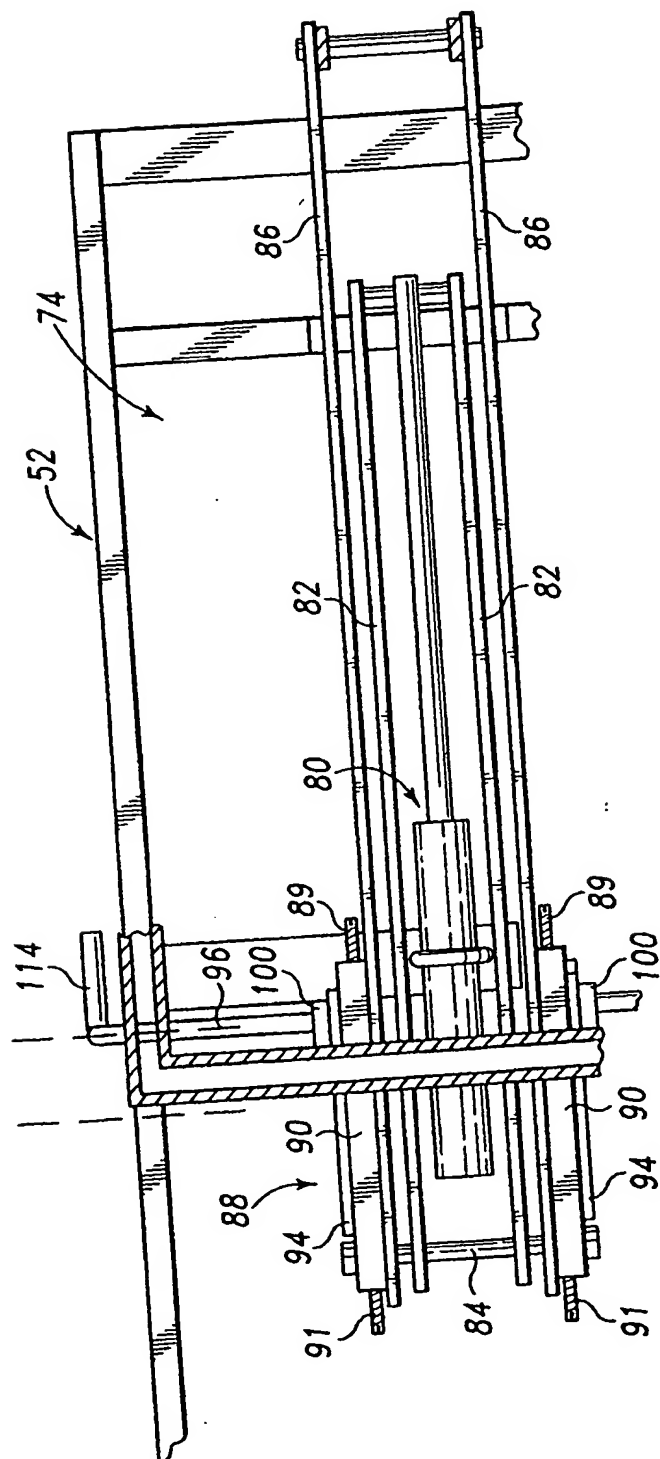


Fig. 18

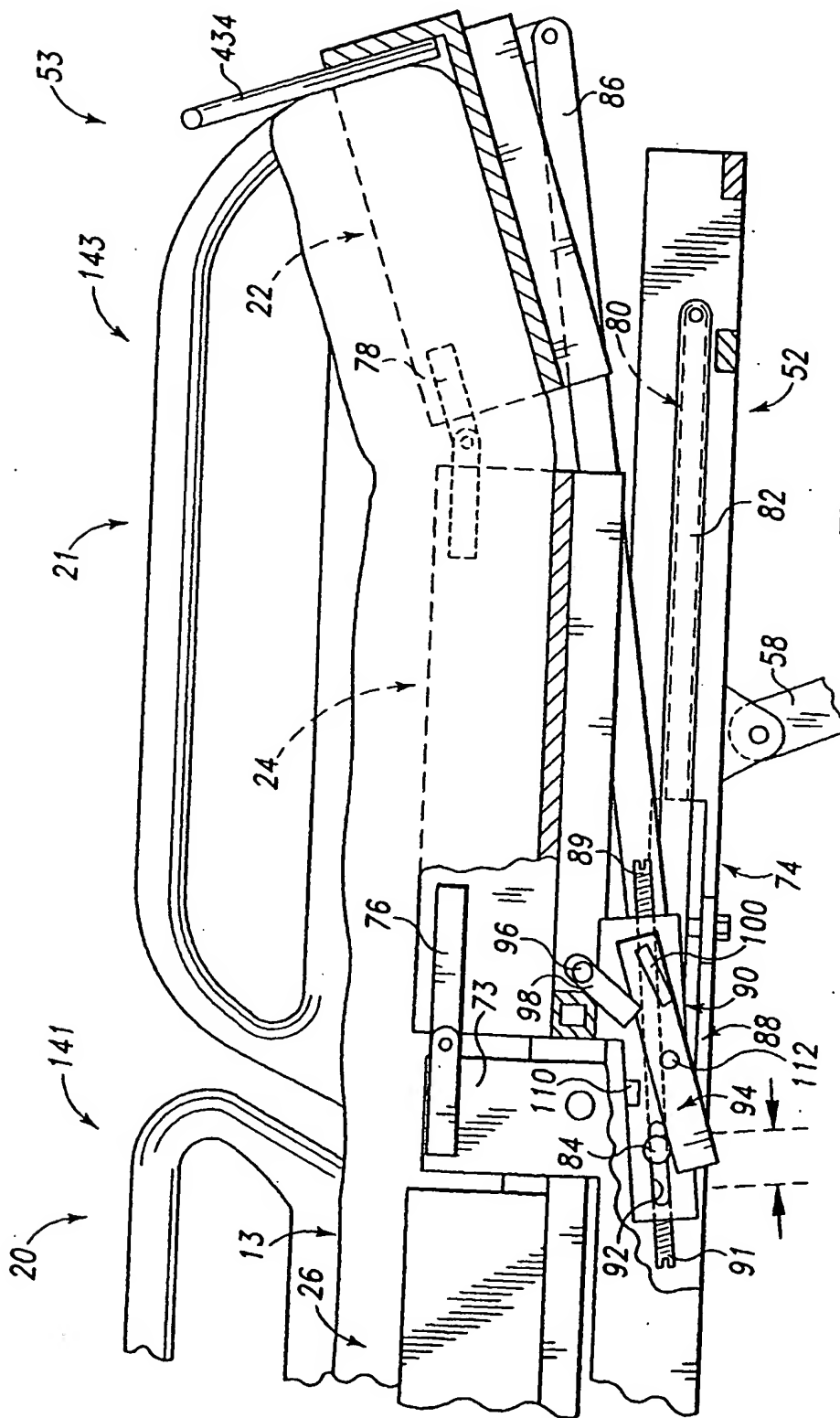


Fig. 19

Fig. 20

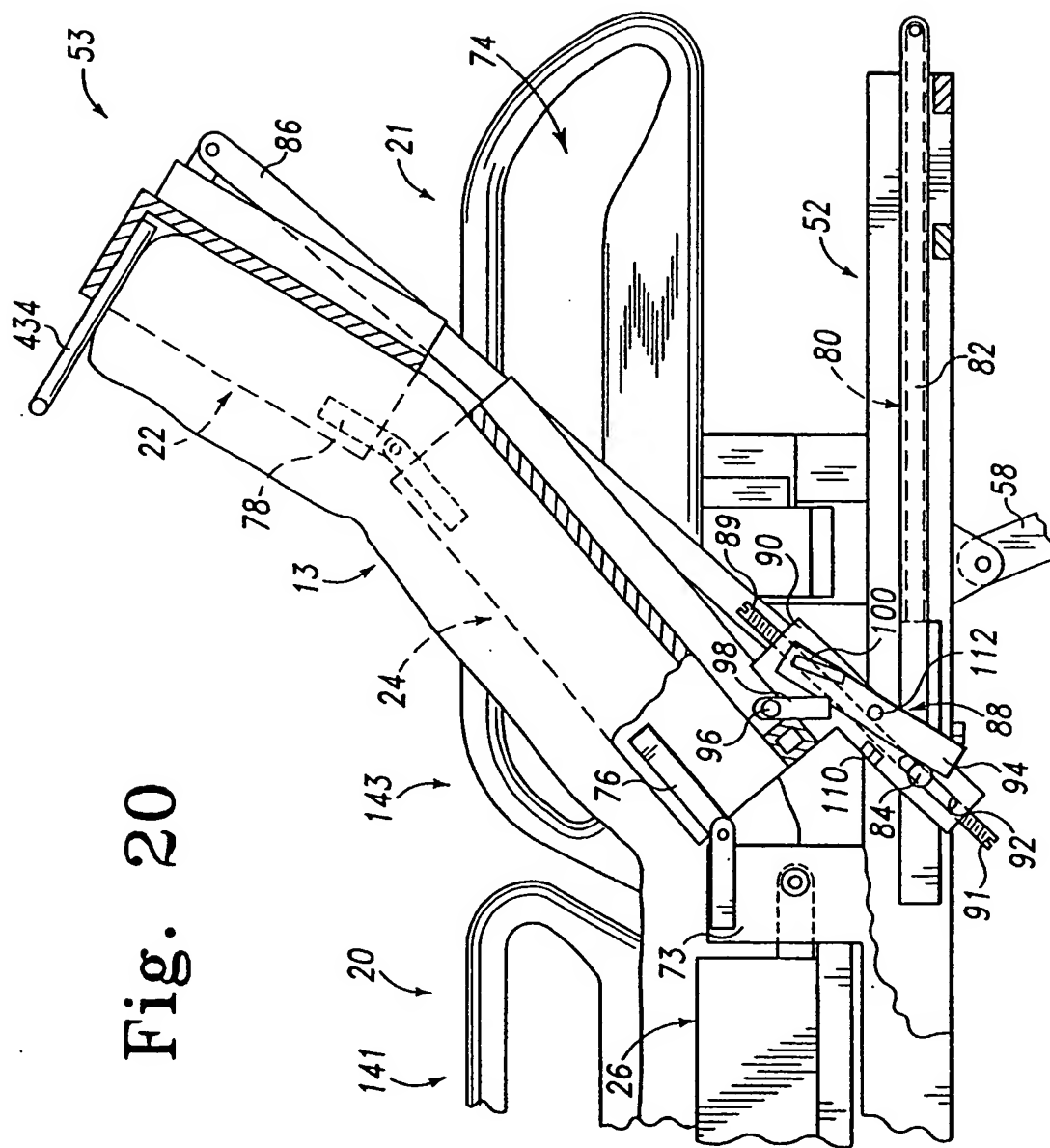
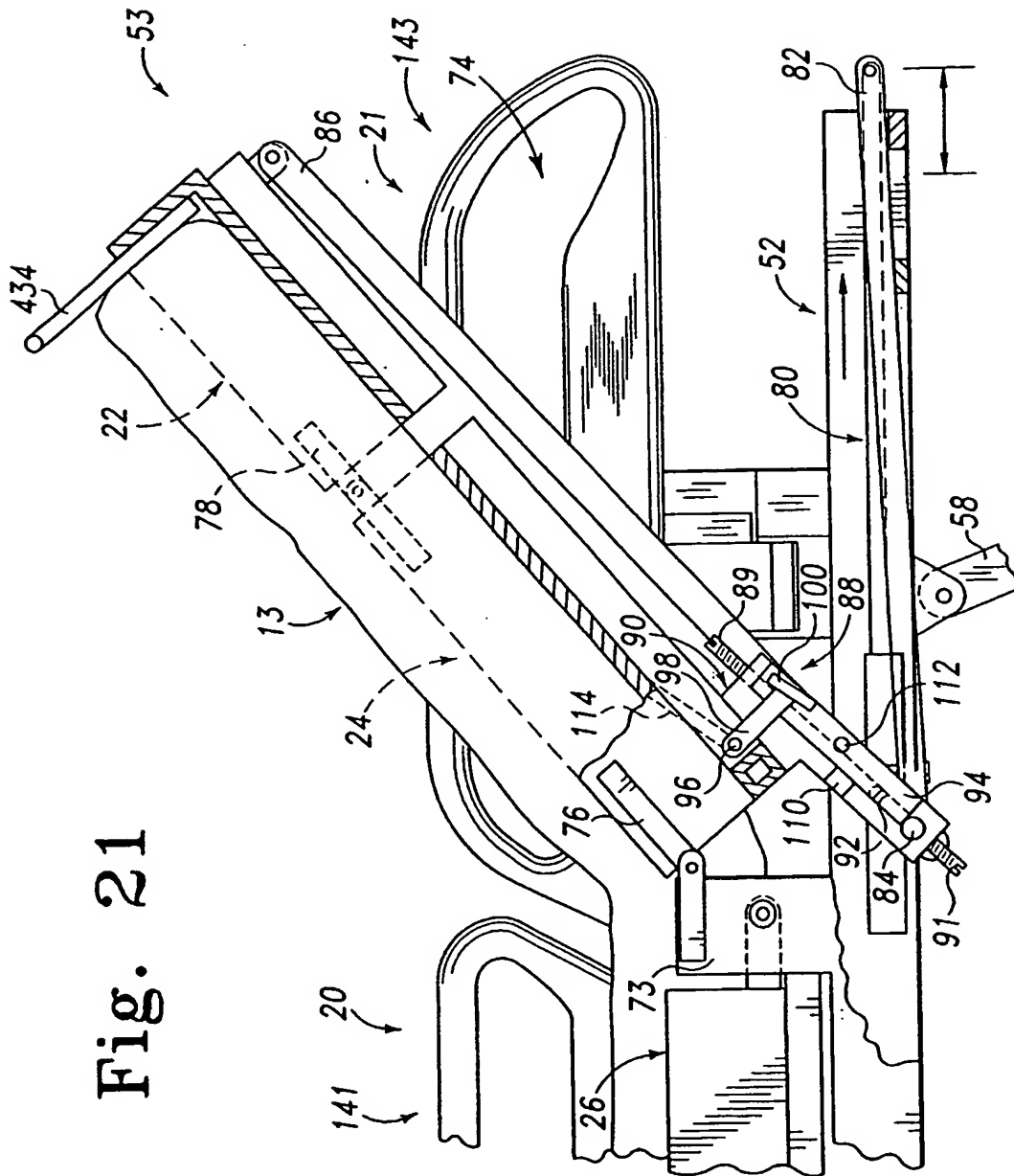


Fig. 21



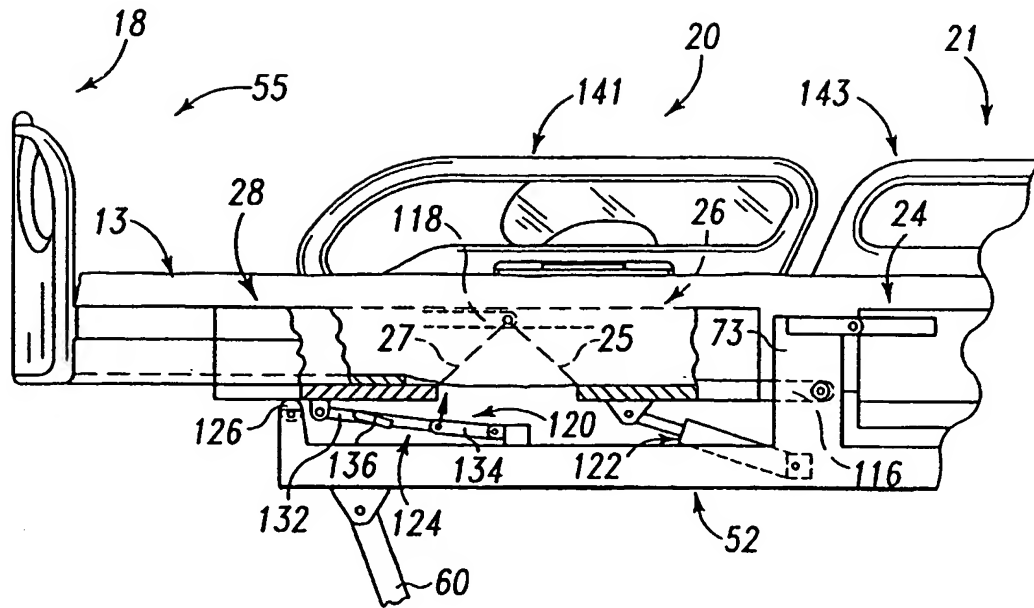


Fig. 22

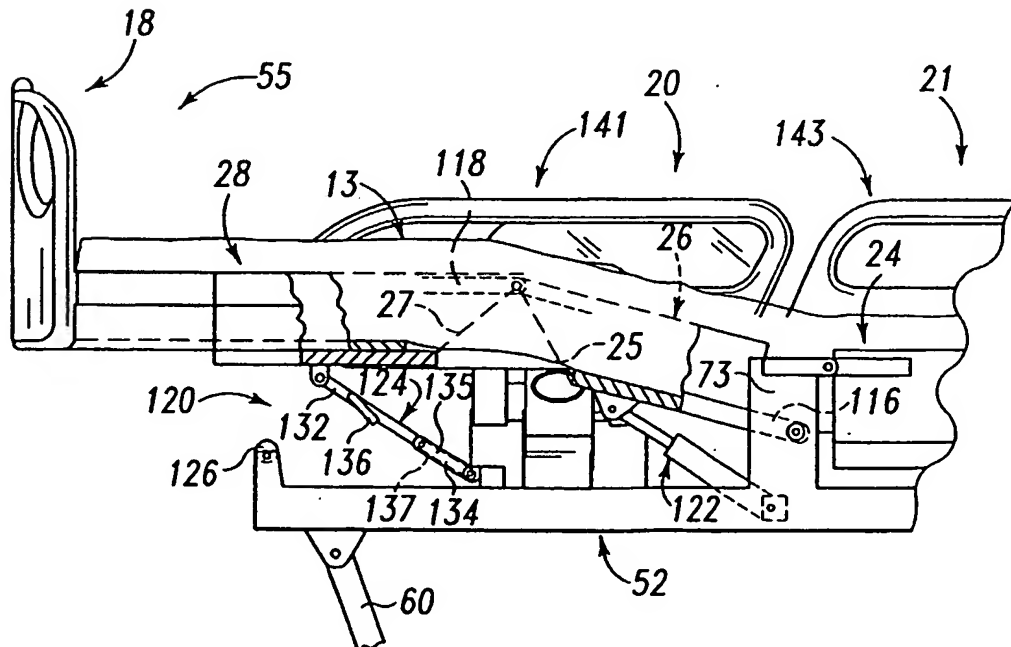


Fig. 23

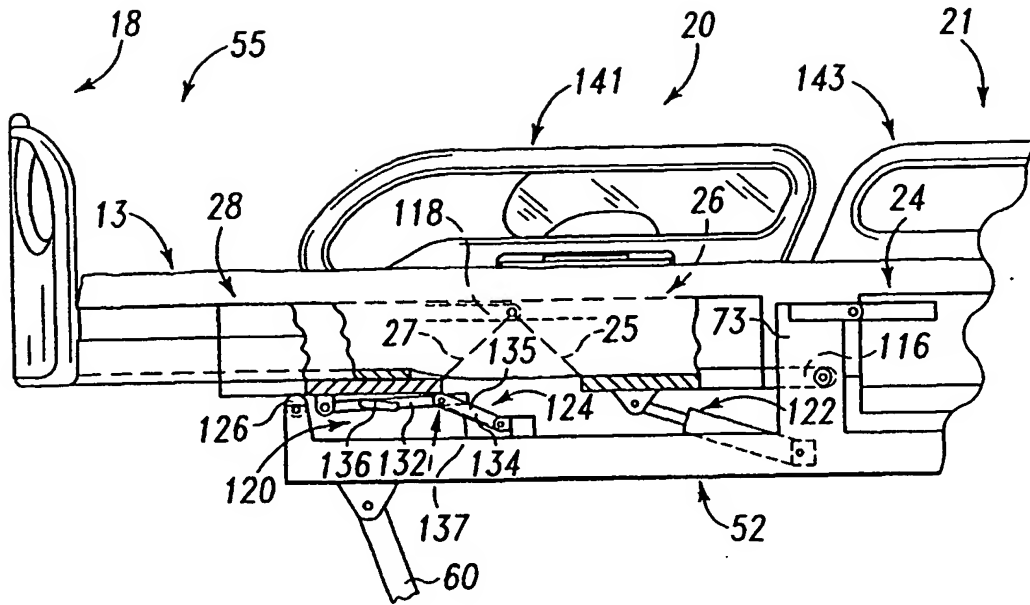


Fig. 24

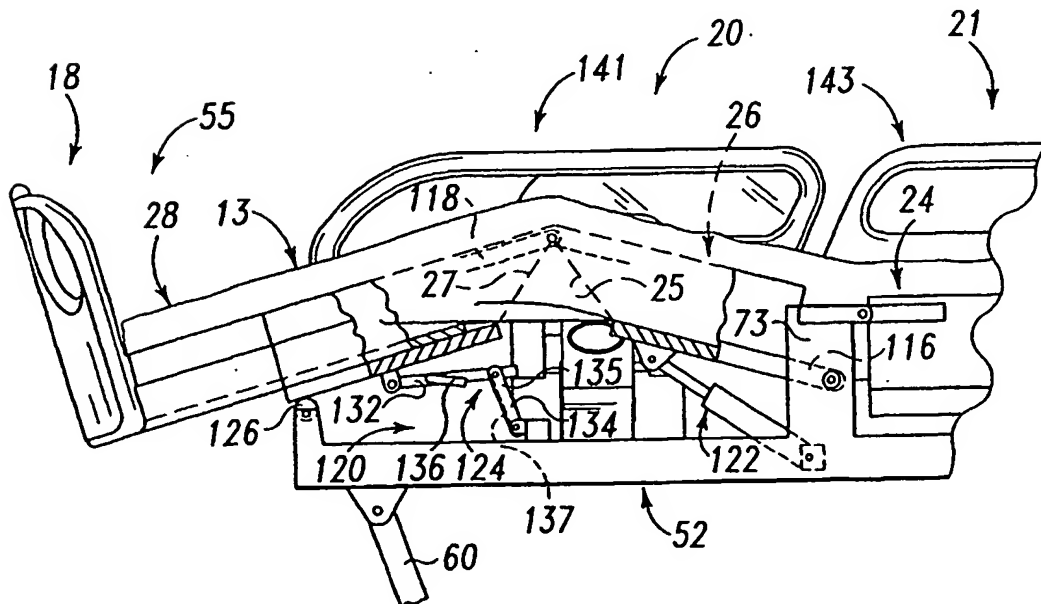


Fig. 25

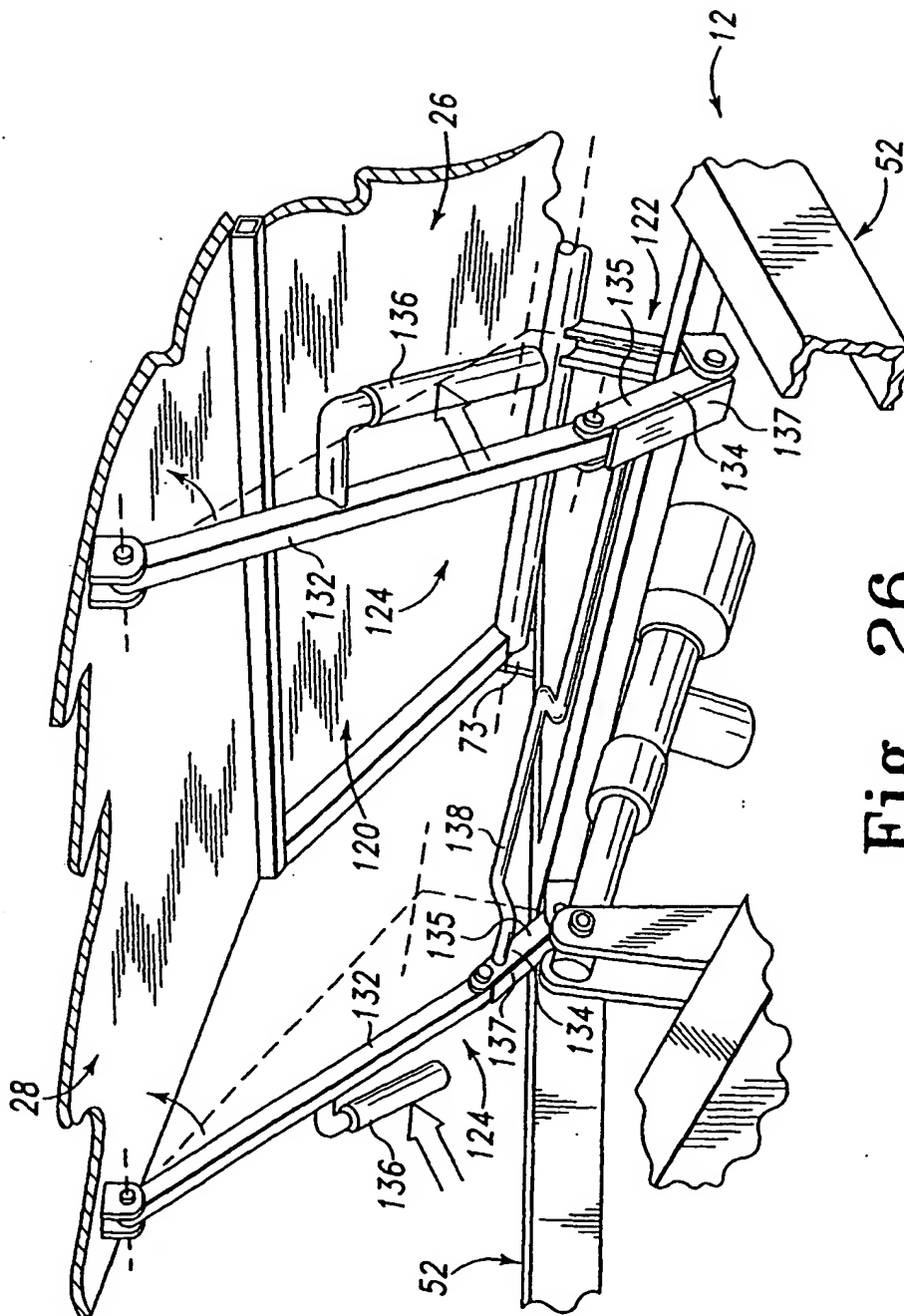


Fig. 26

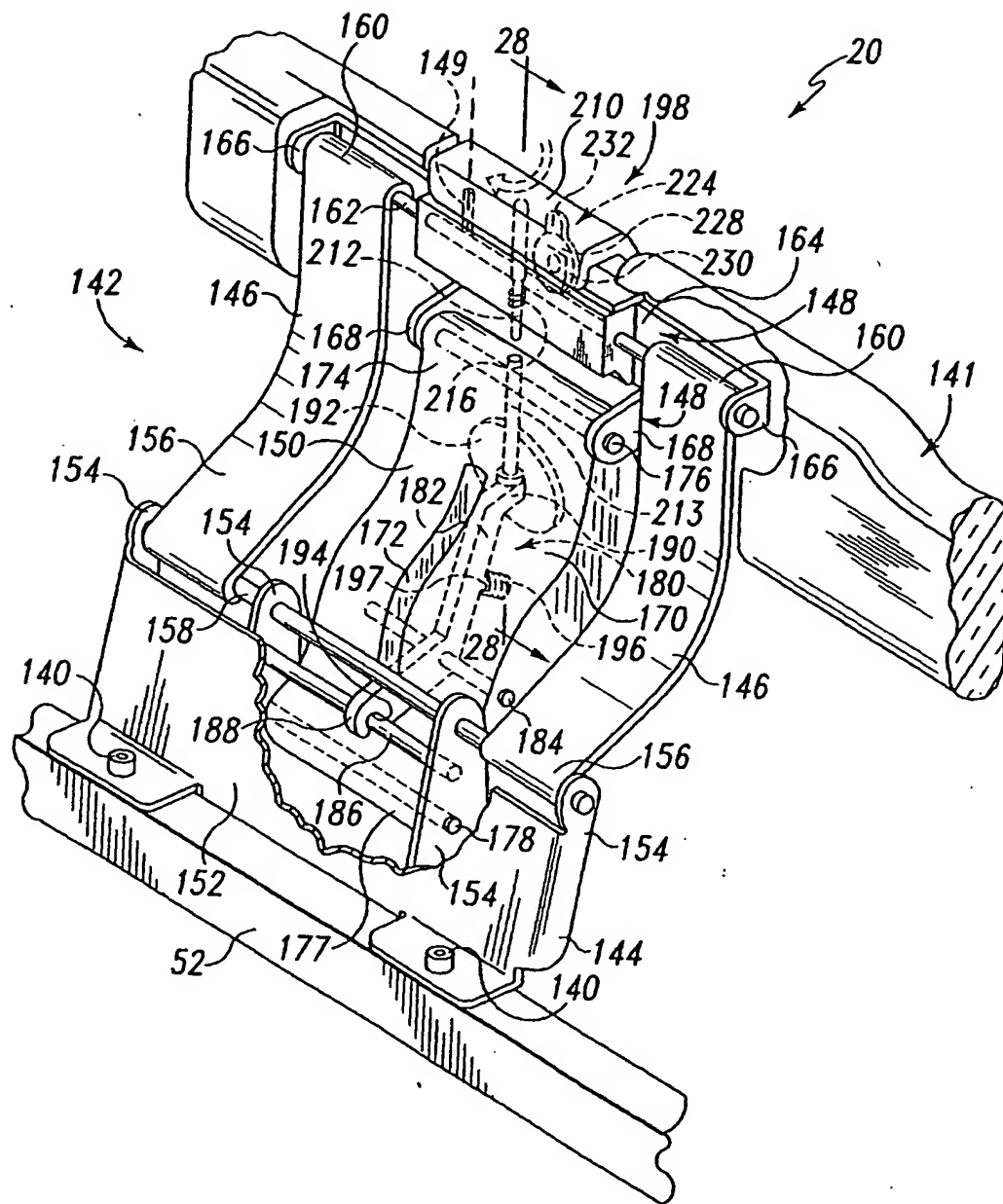


Fig. 27

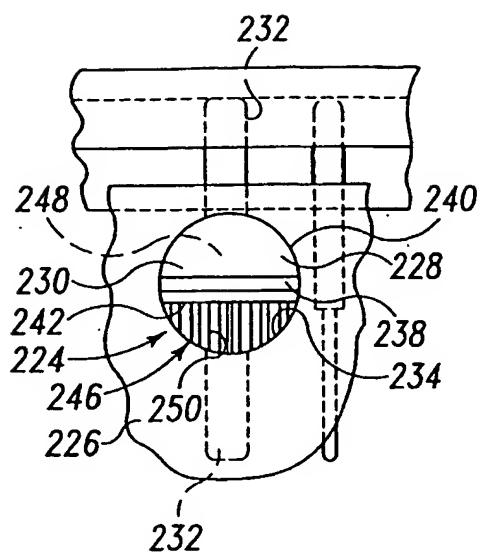


Fig. 29

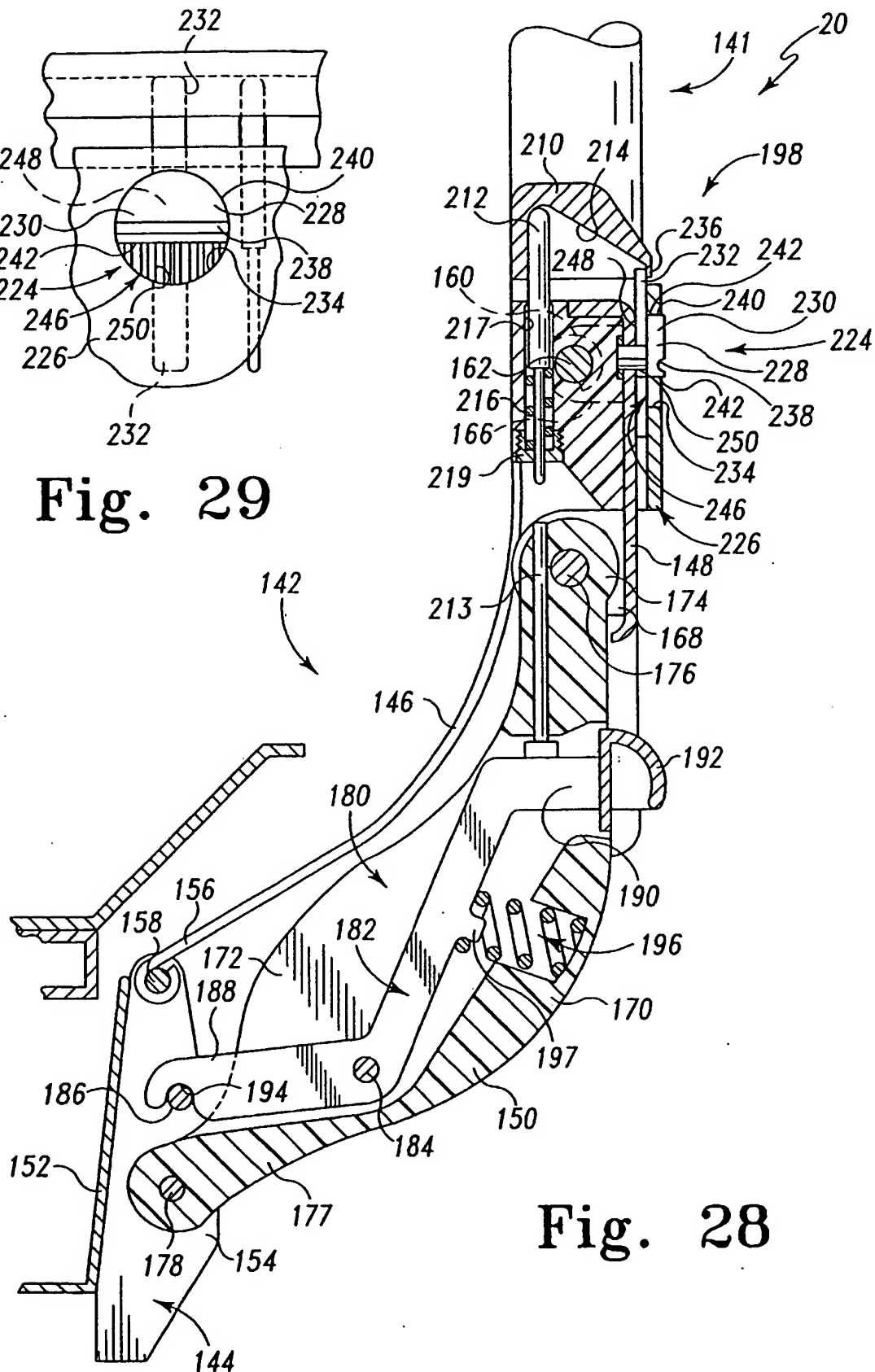


Fig. 28

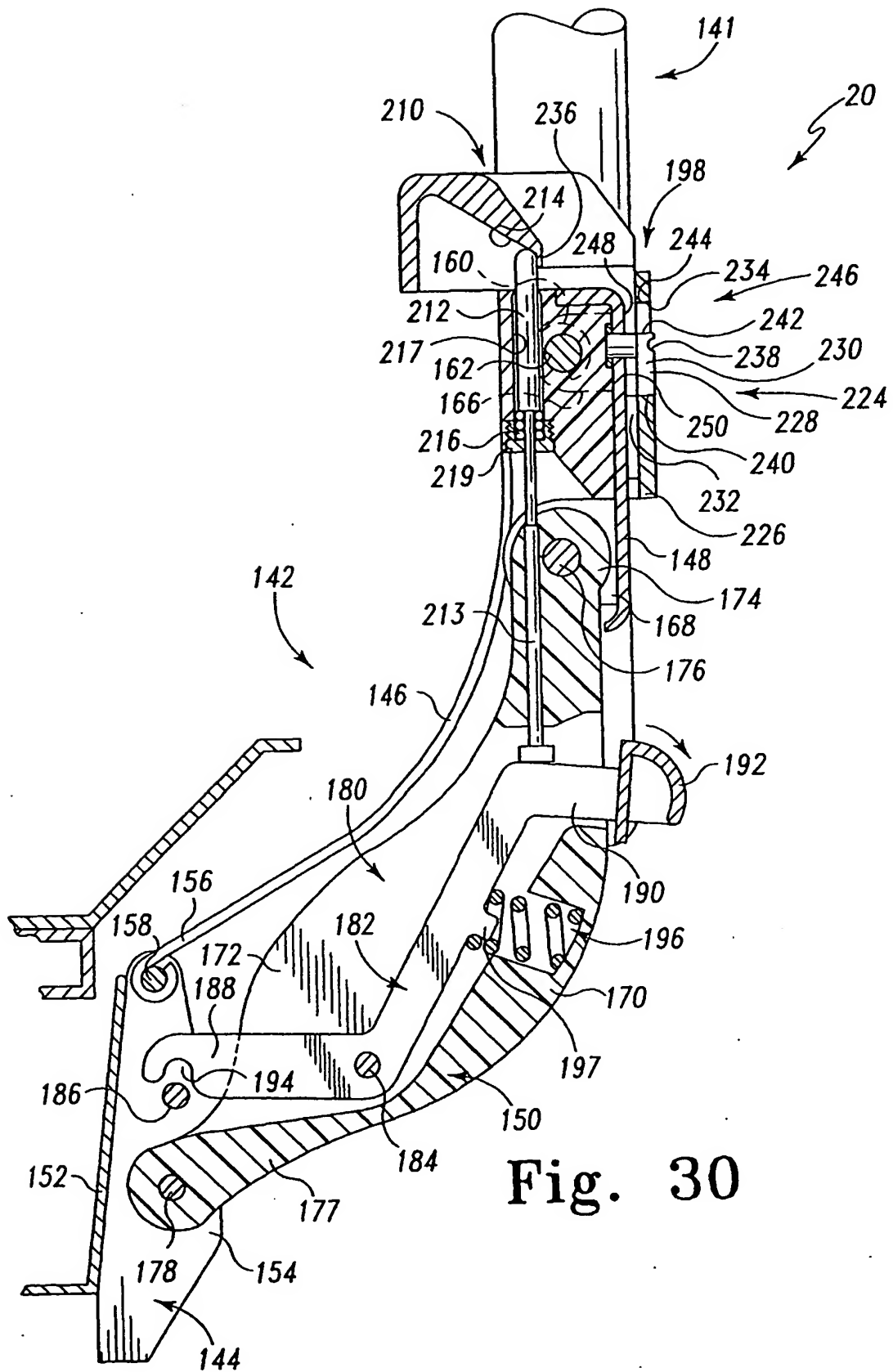
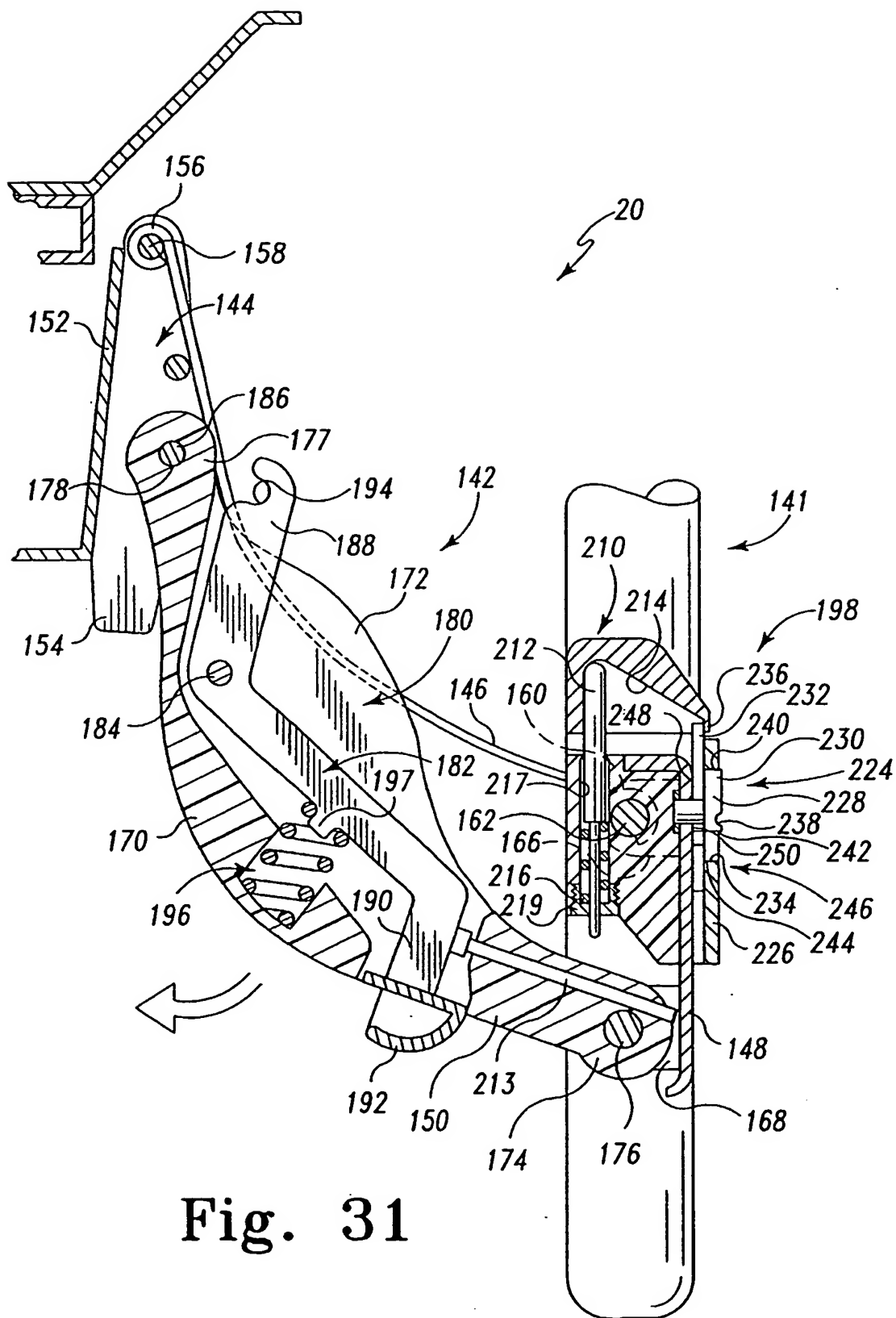
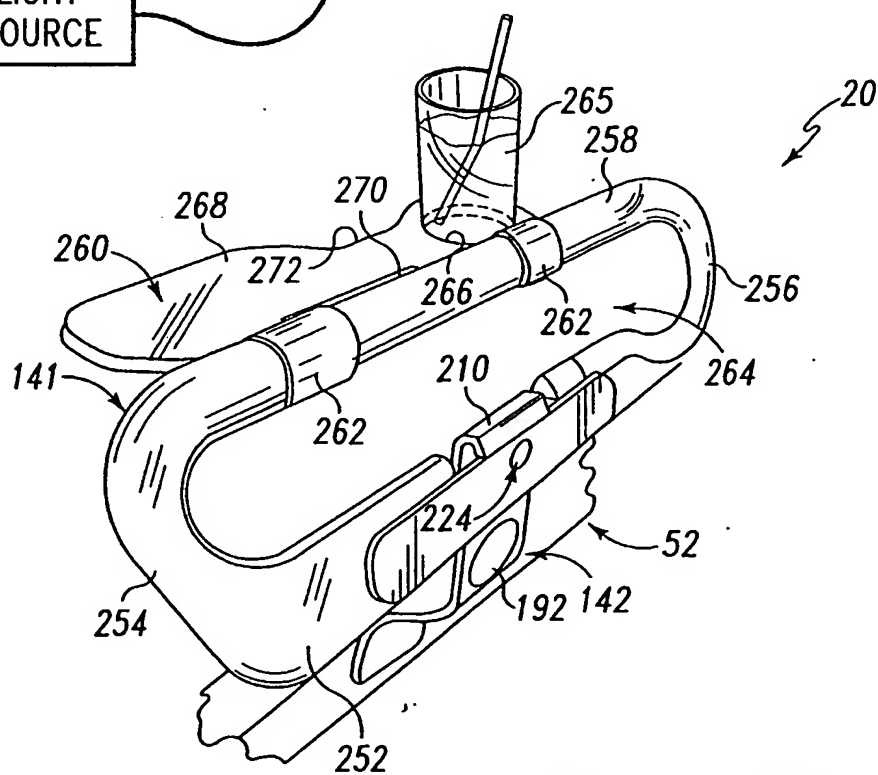
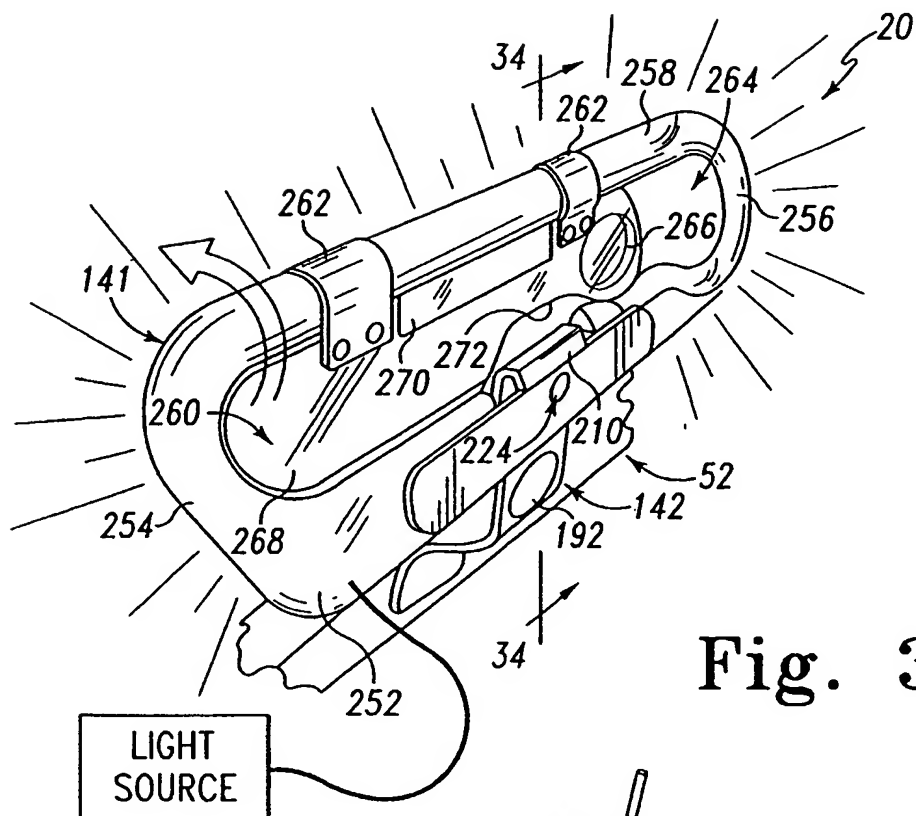


Fig. 30





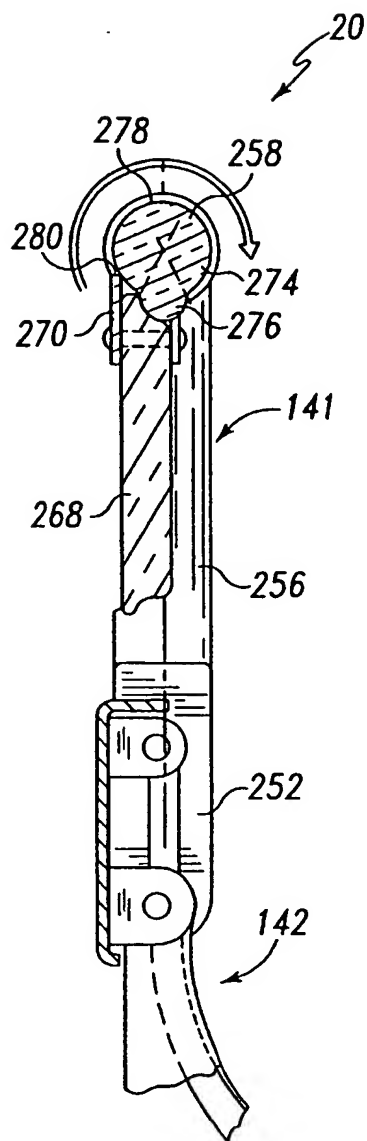


Fig. 34

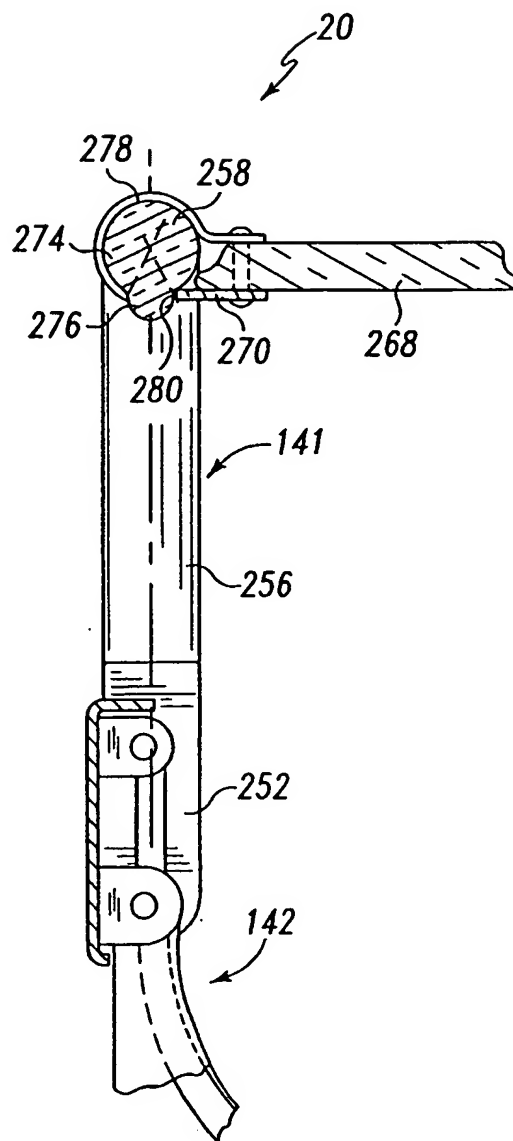


Fig. 35

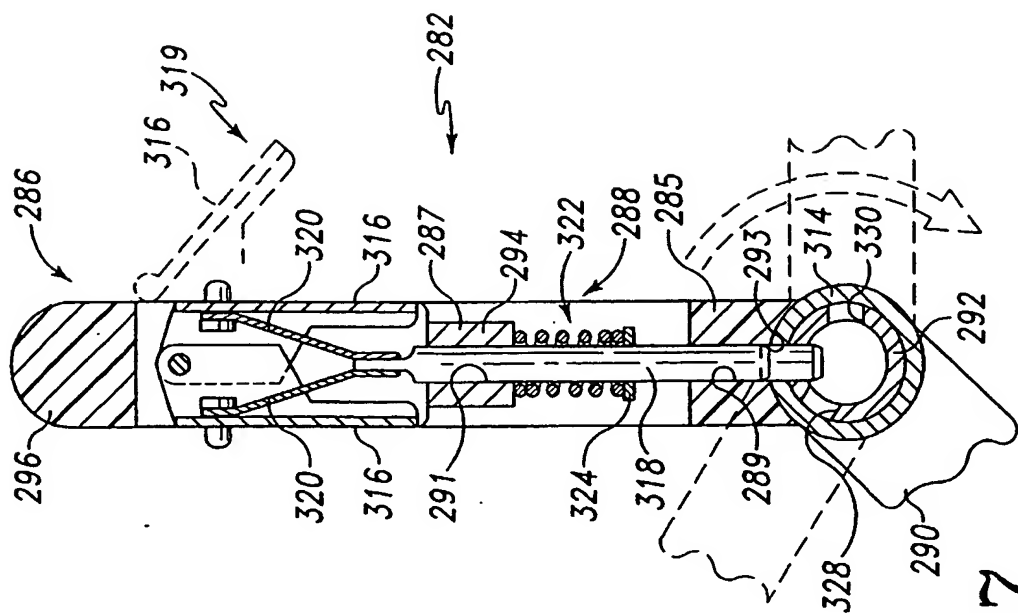


Fig. 37

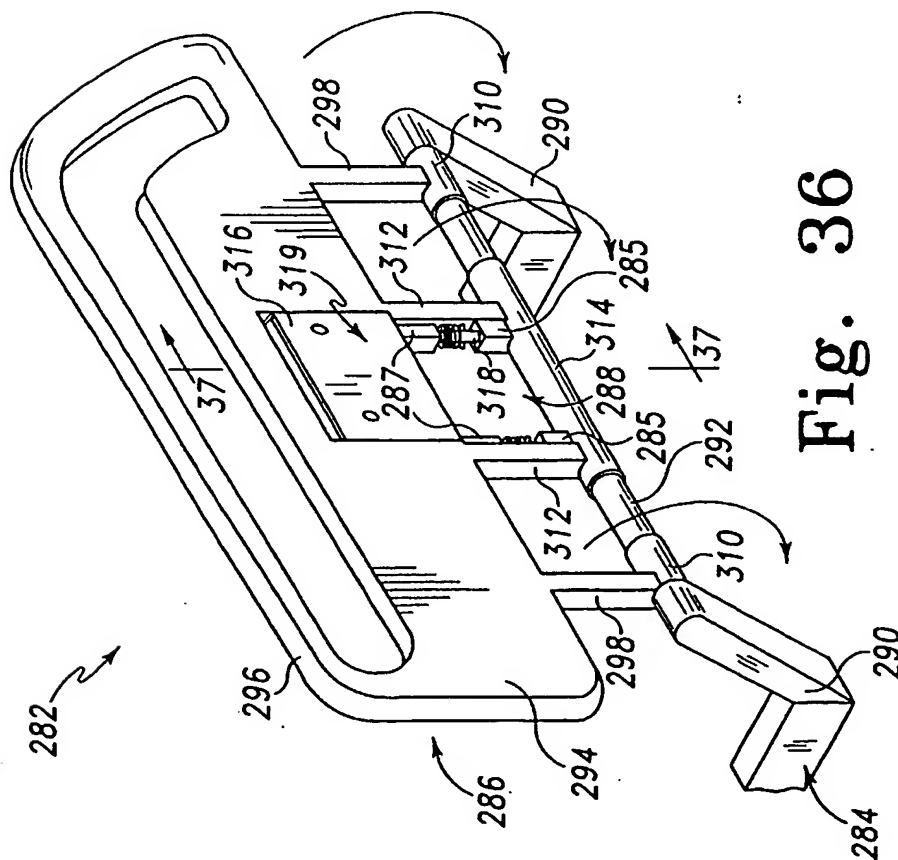


Fig. 36

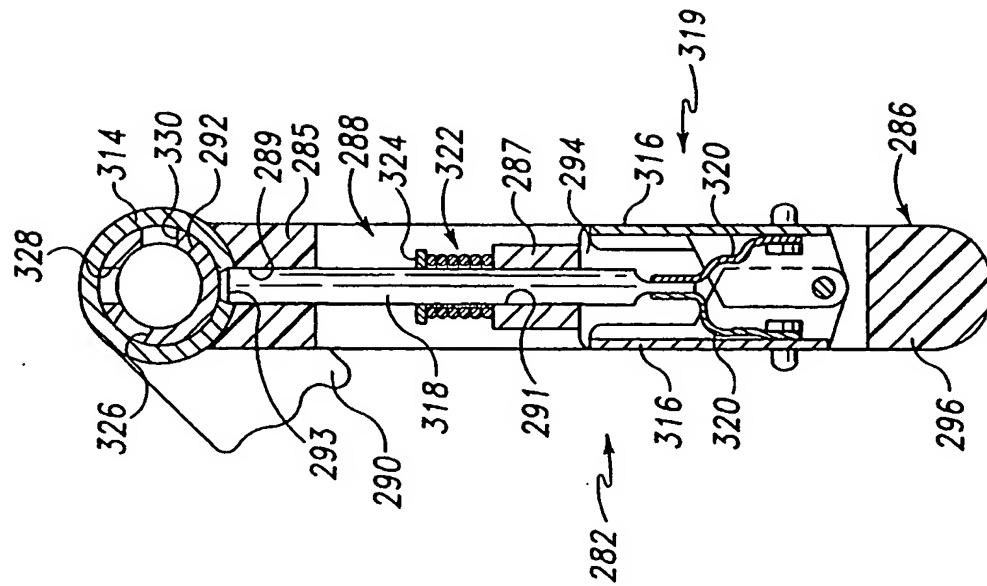


Fig. 38

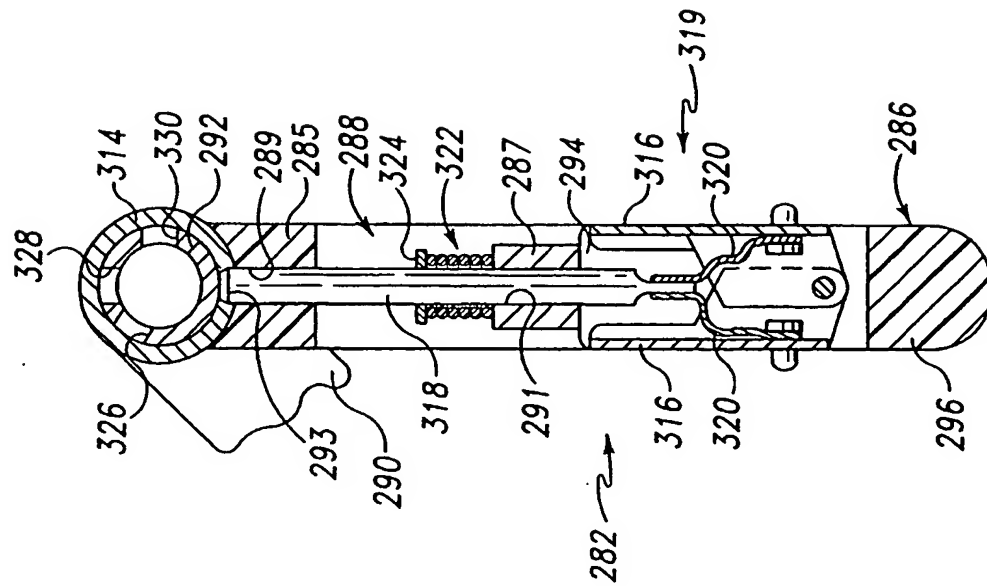


Fig. 39

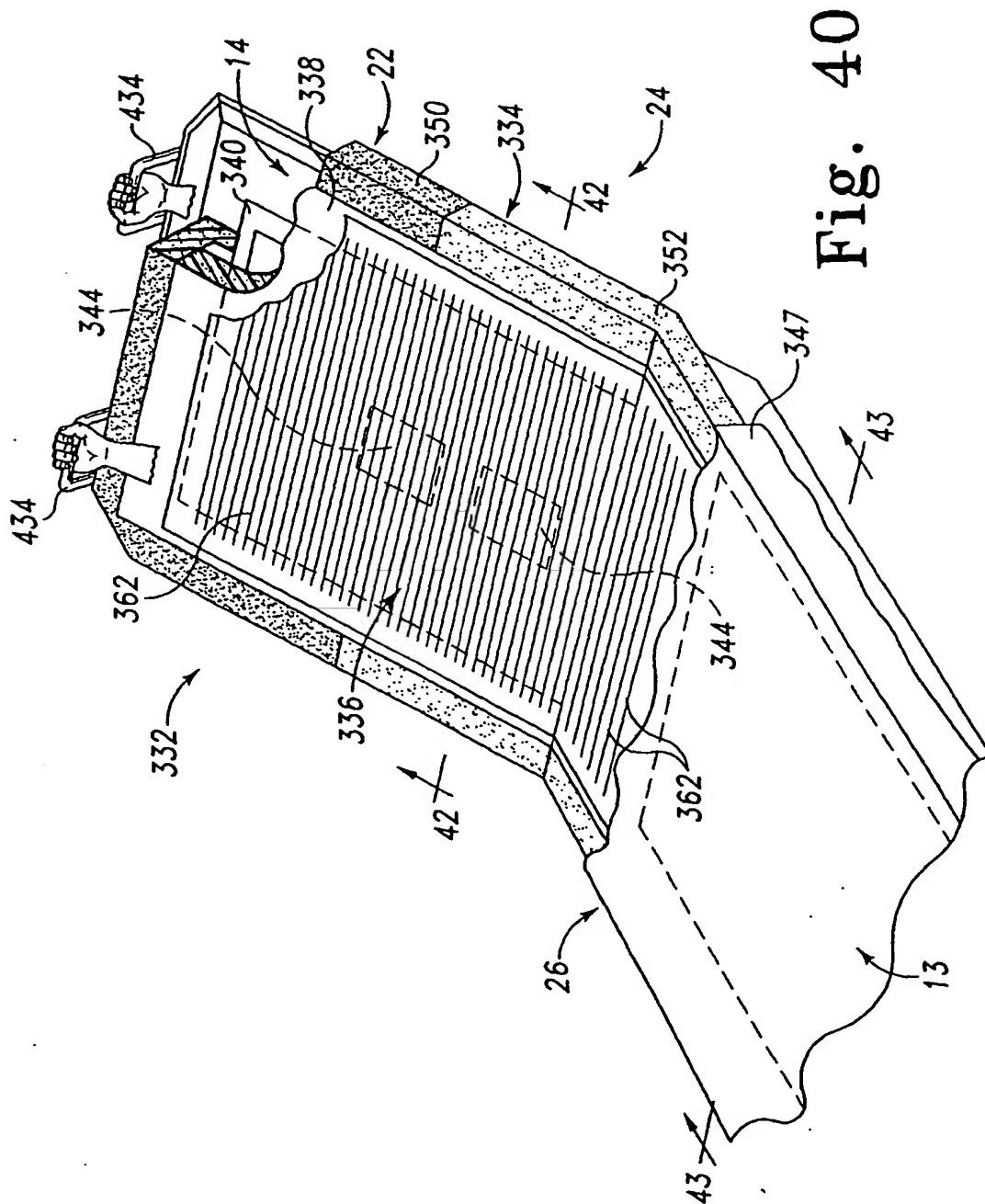


Fig. 40

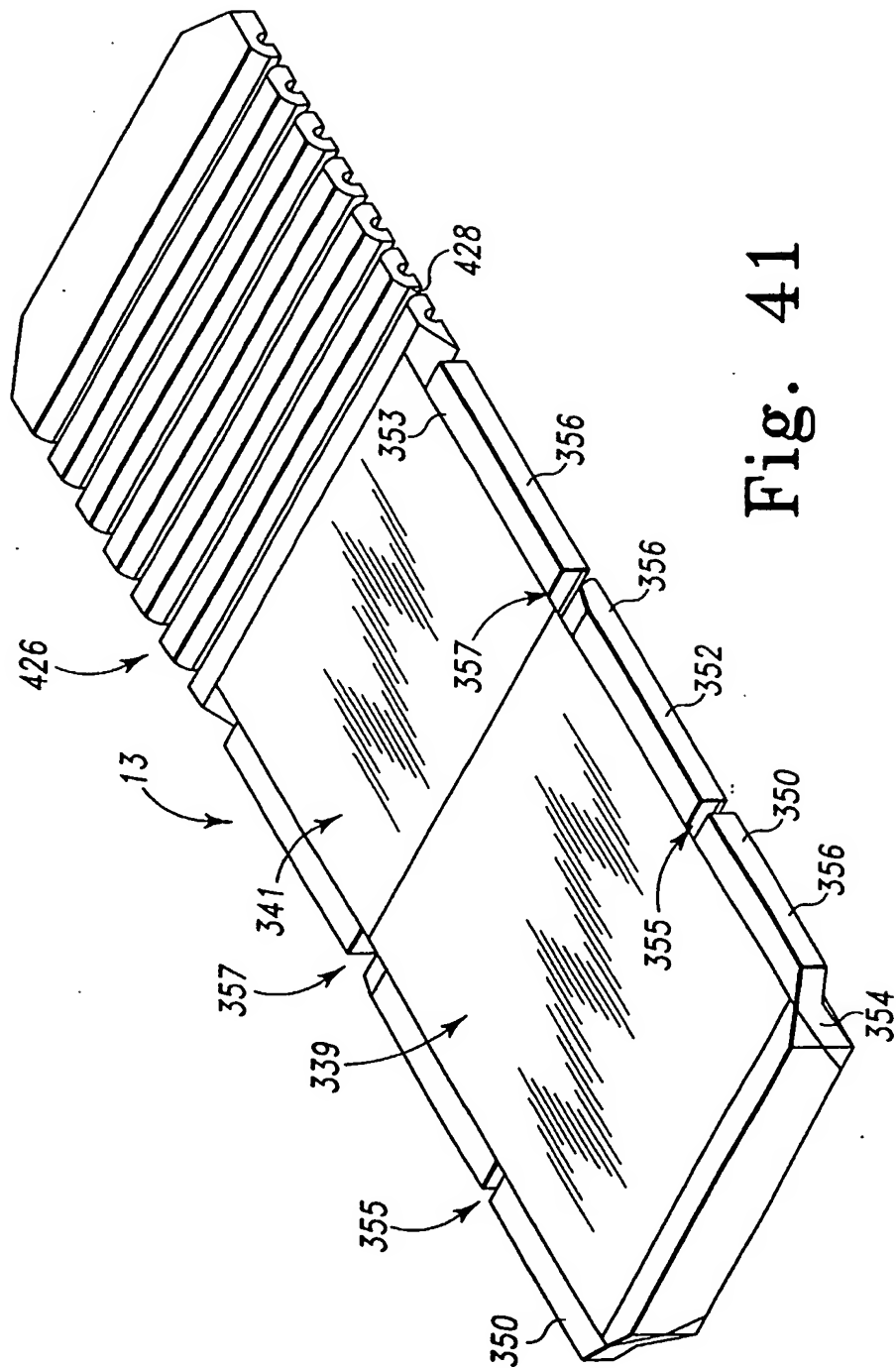


Fig. 41

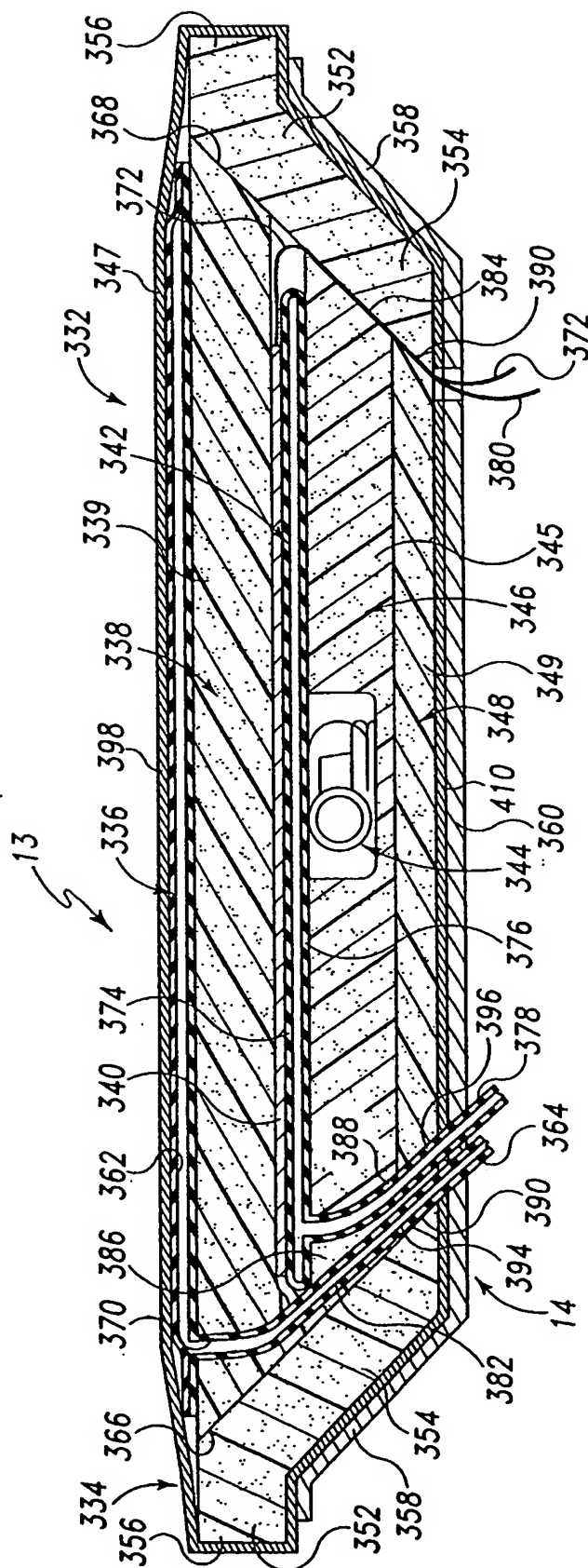


Fig. 42

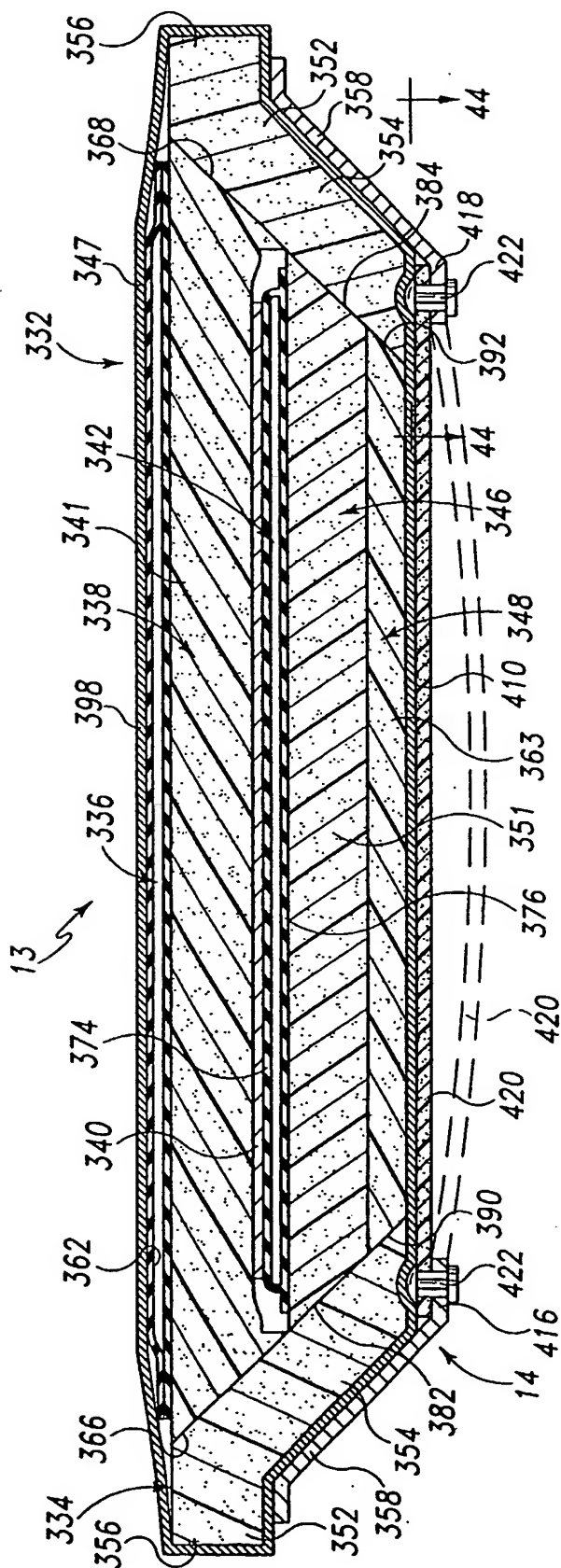


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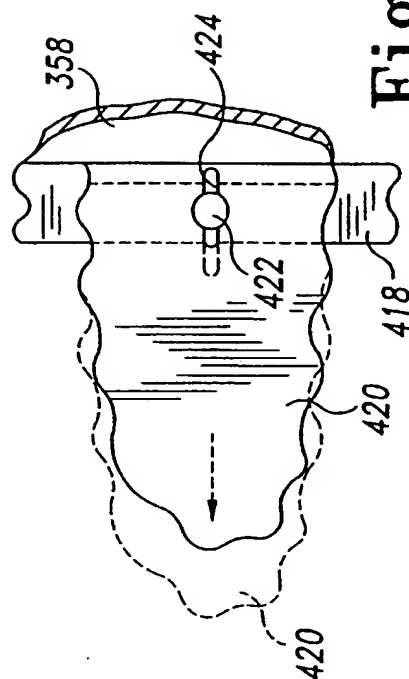


Fig. 44

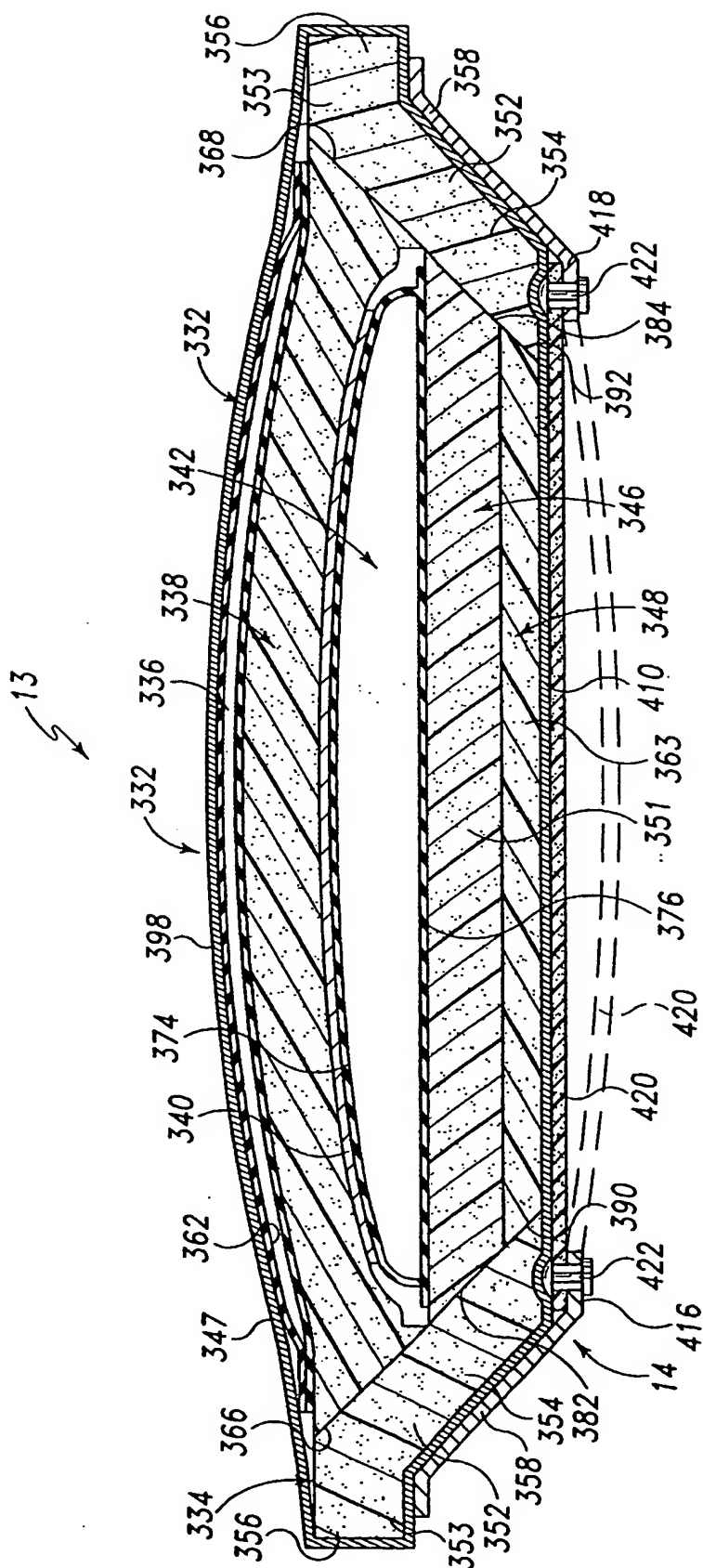
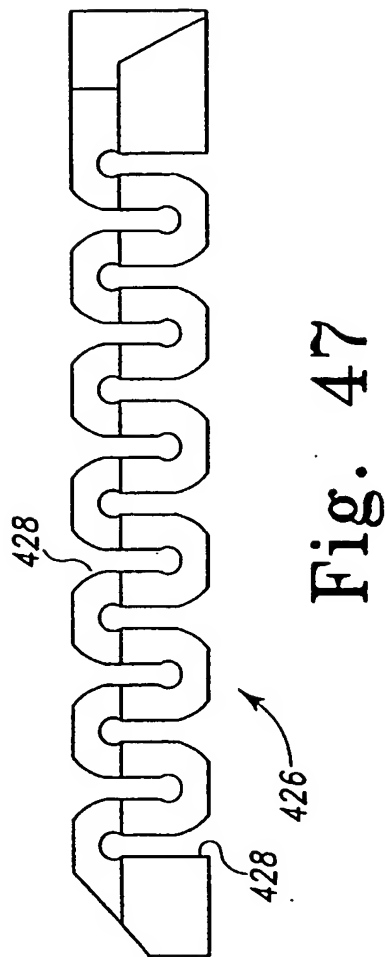
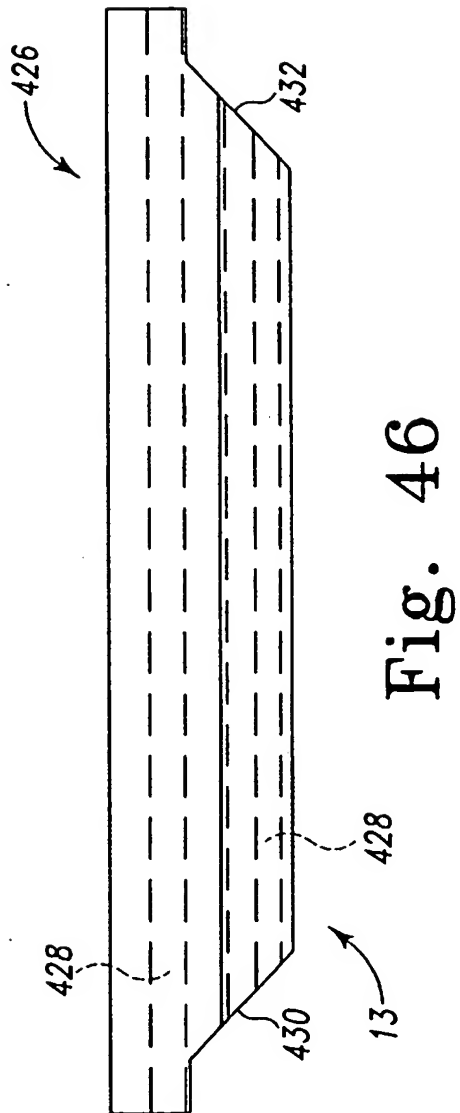


Fig. 45



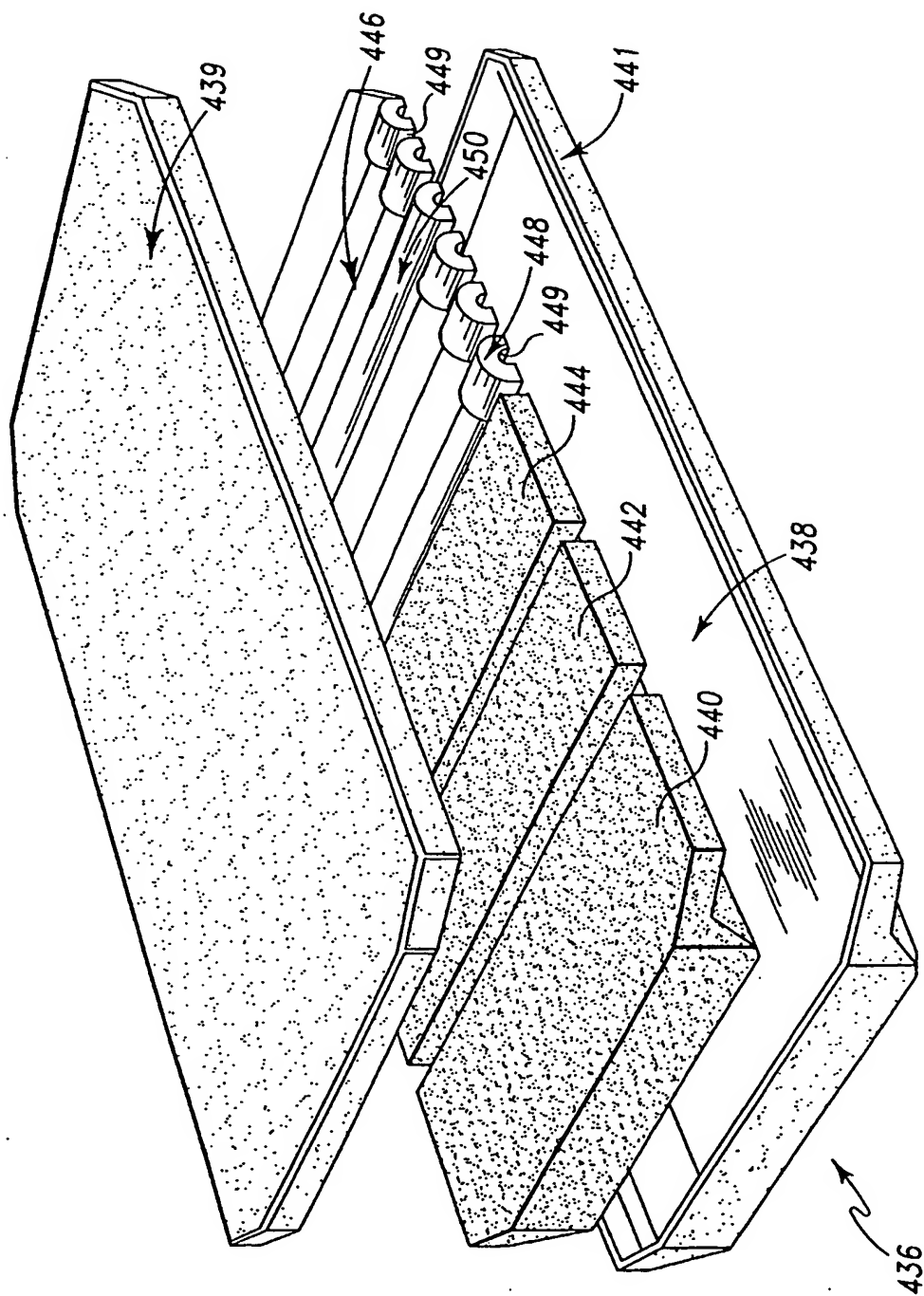


Fig. 48

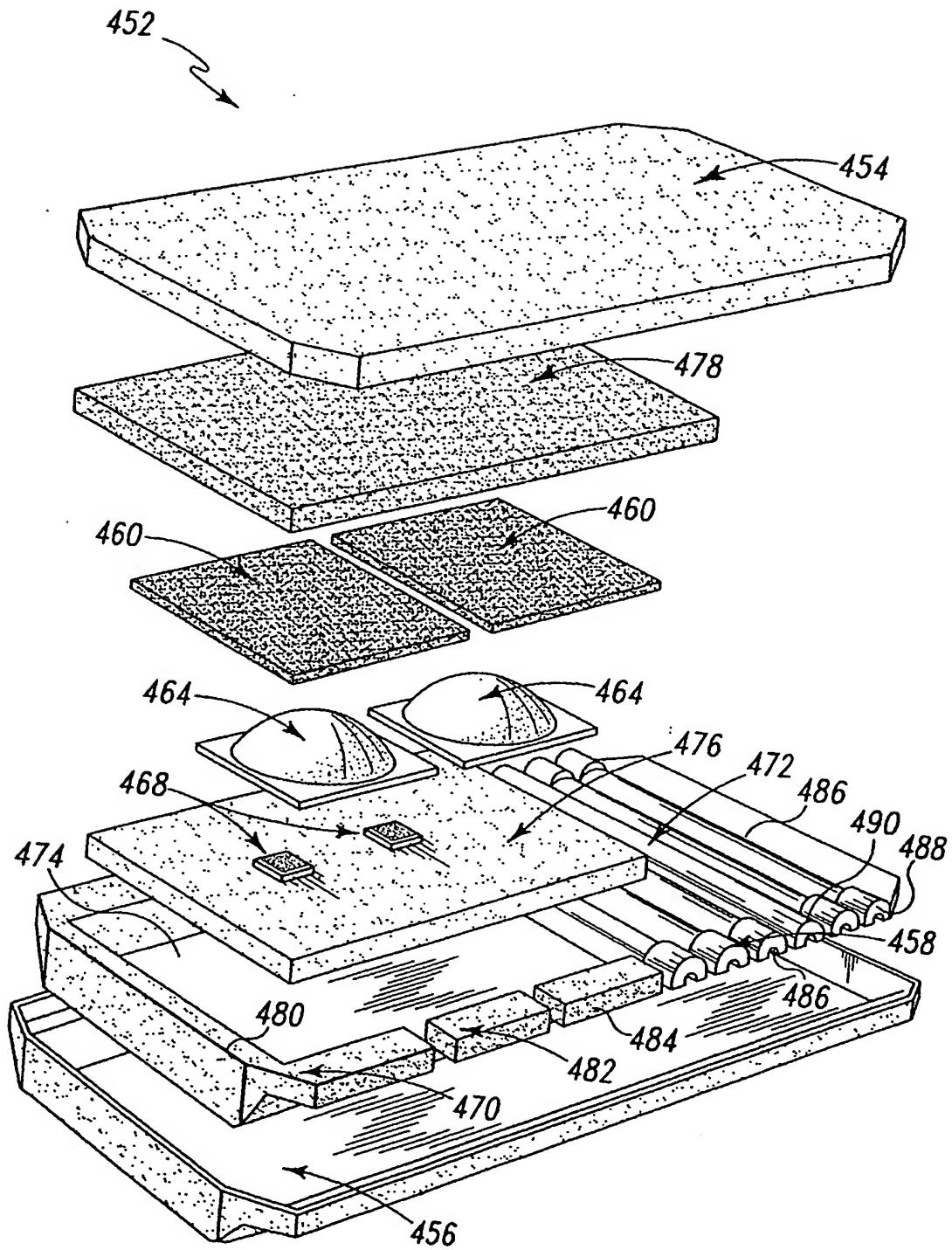


Fig. 49

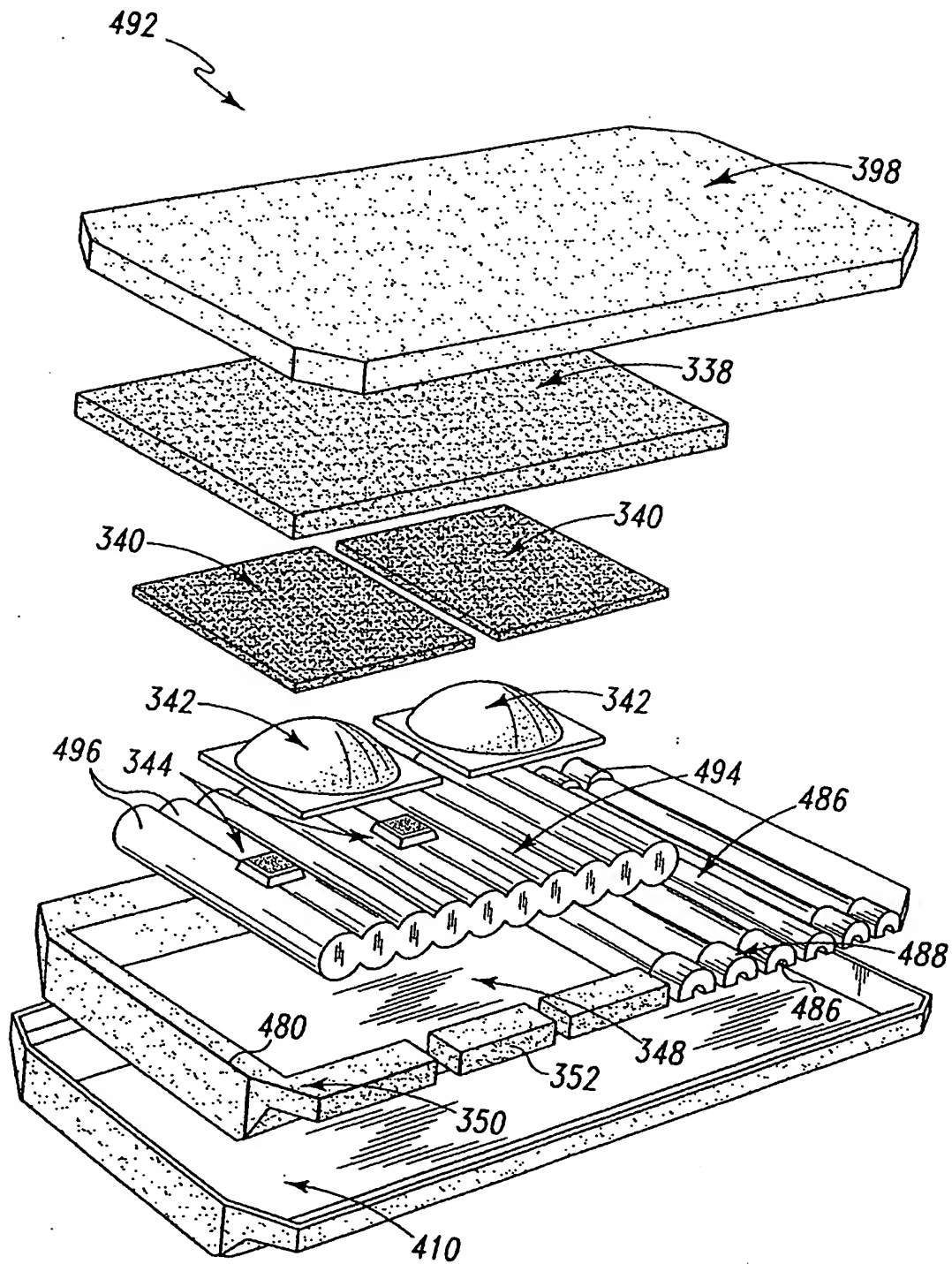
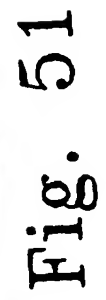
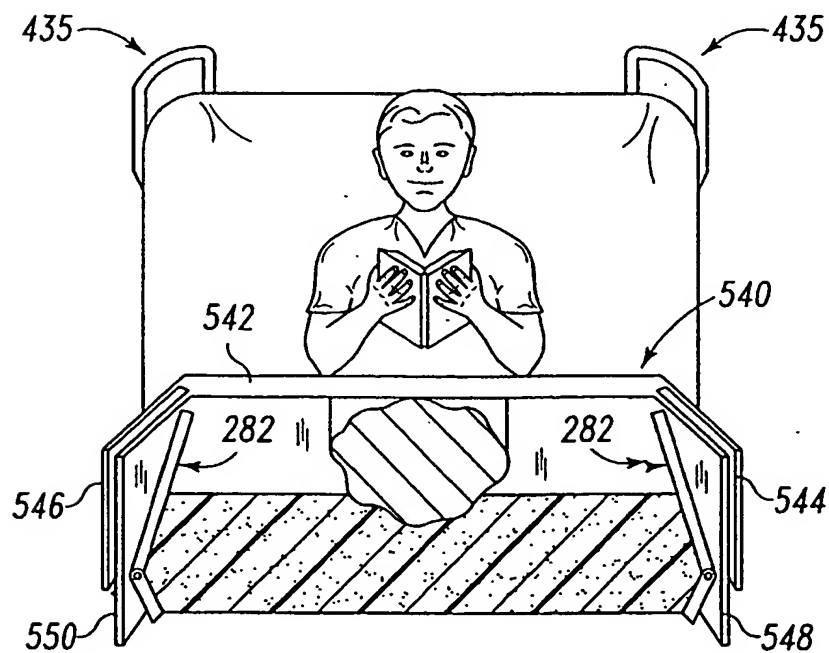
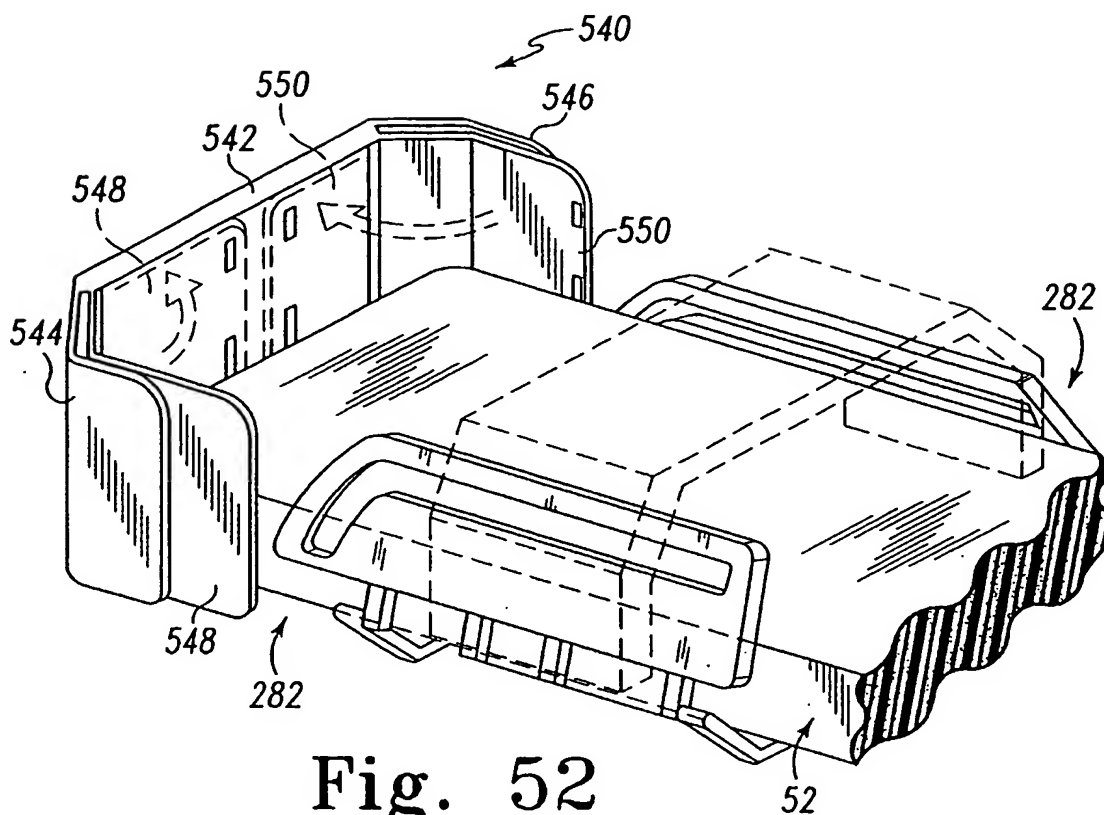
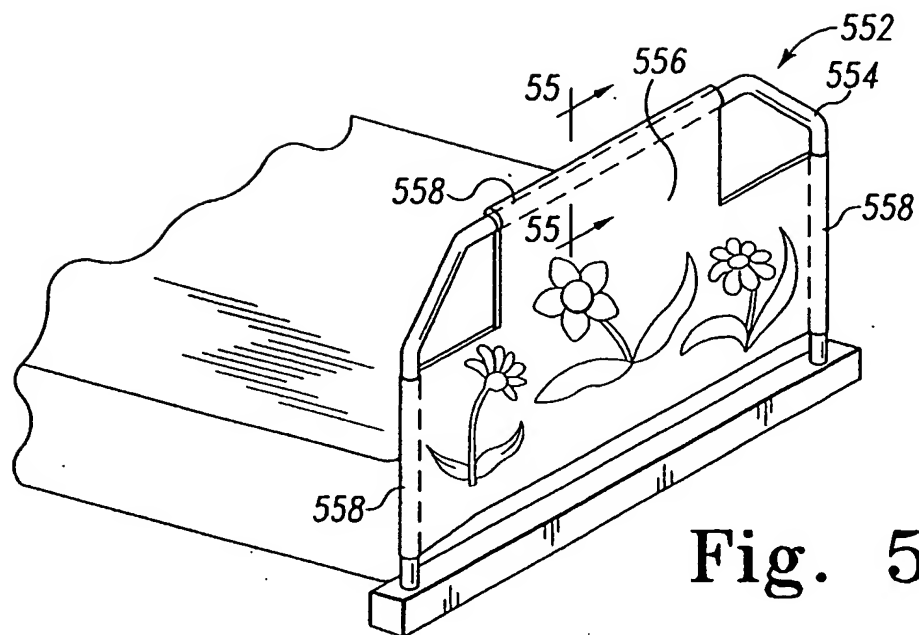
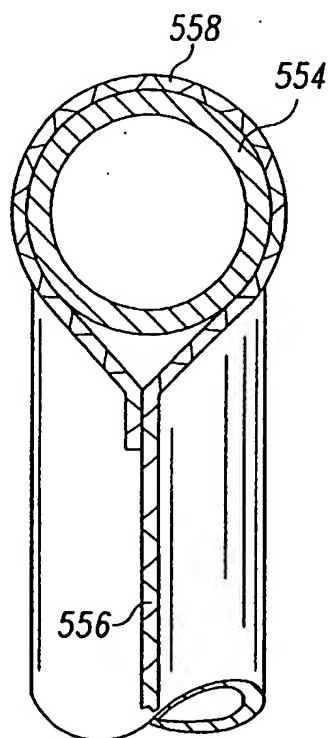


Fig. 50





**Fig. 54****Fig. 55**

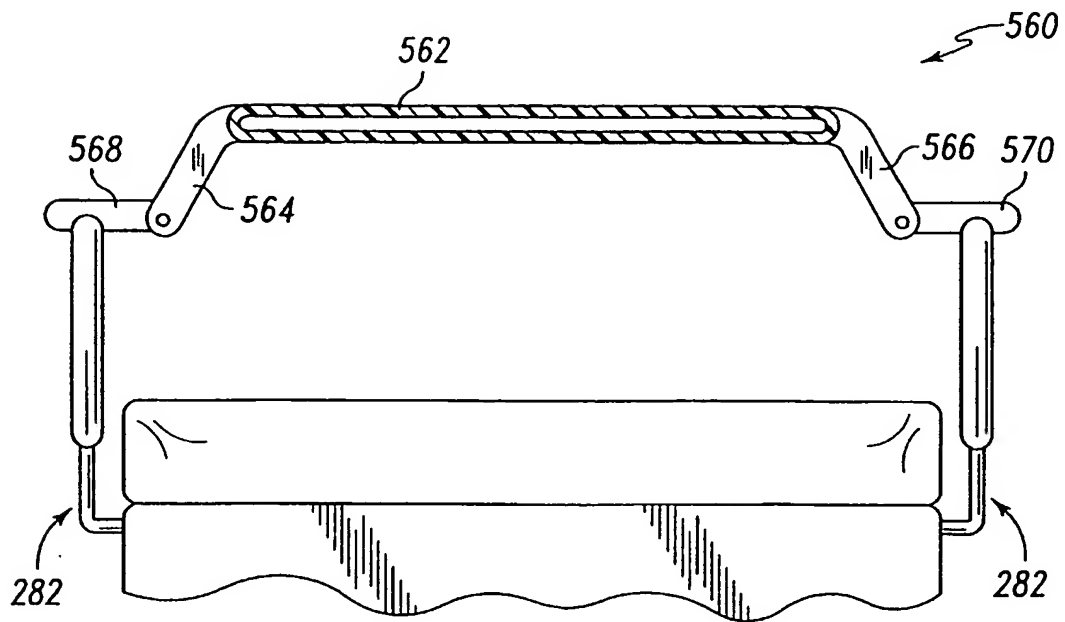


Fig. 56

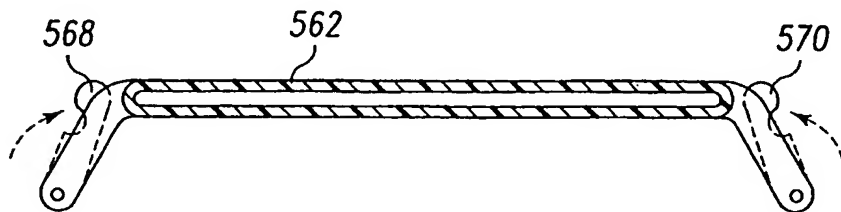


Fig. 57

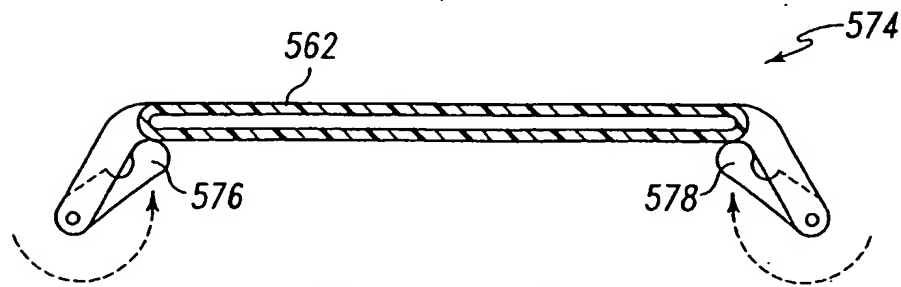


Fig. 58

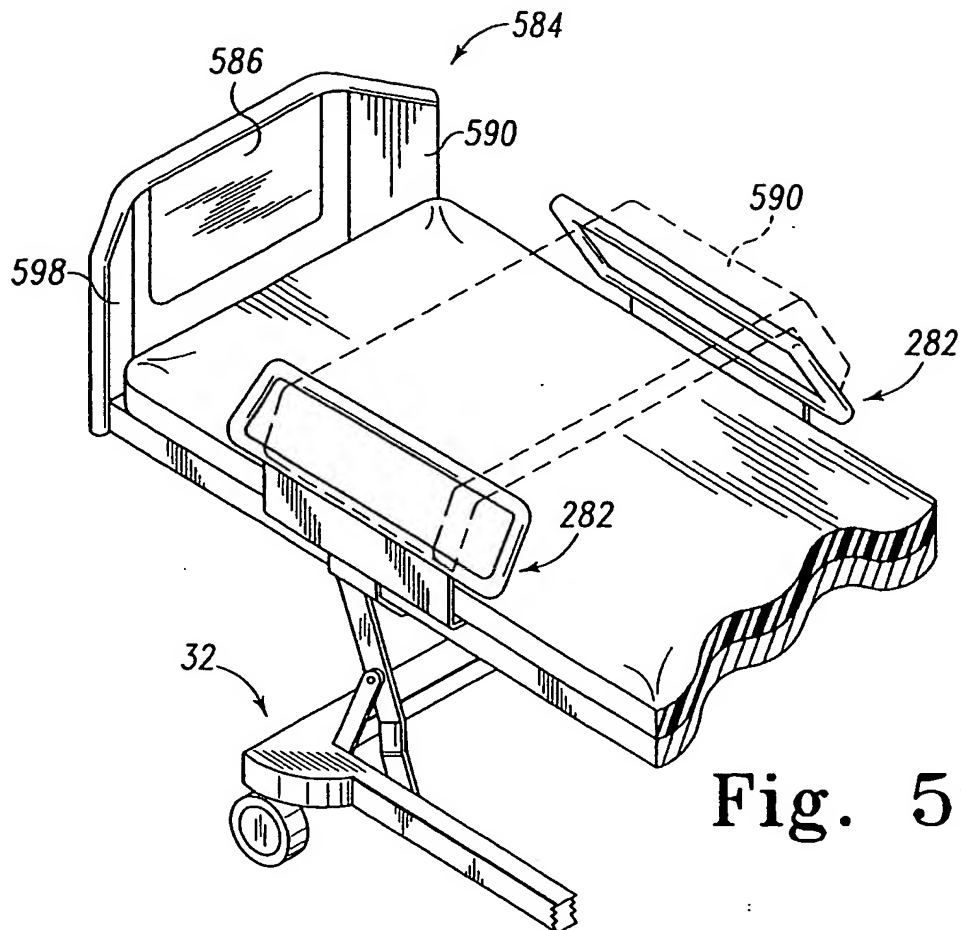


Fig. 59

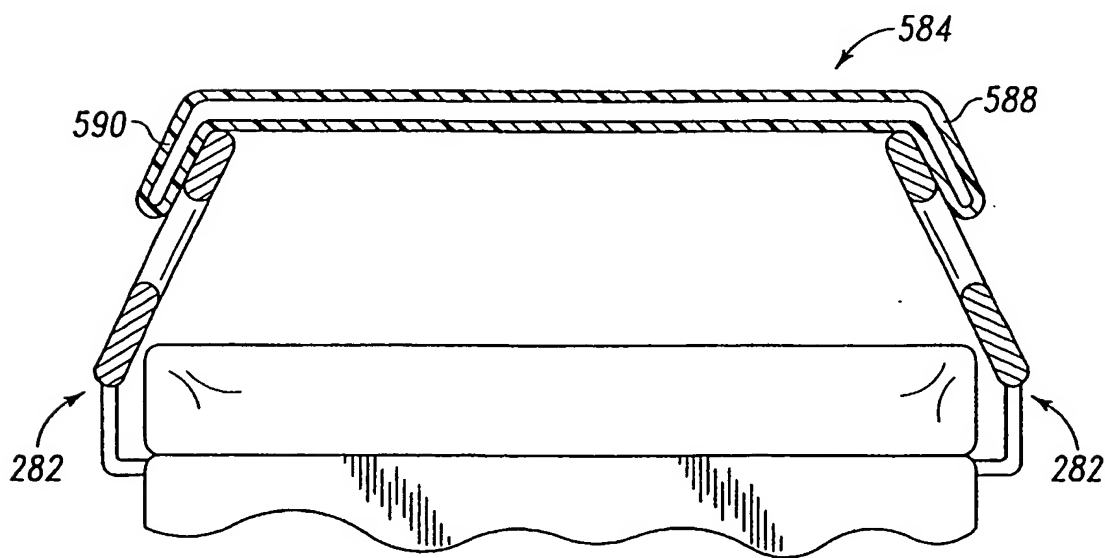


Fig. 60

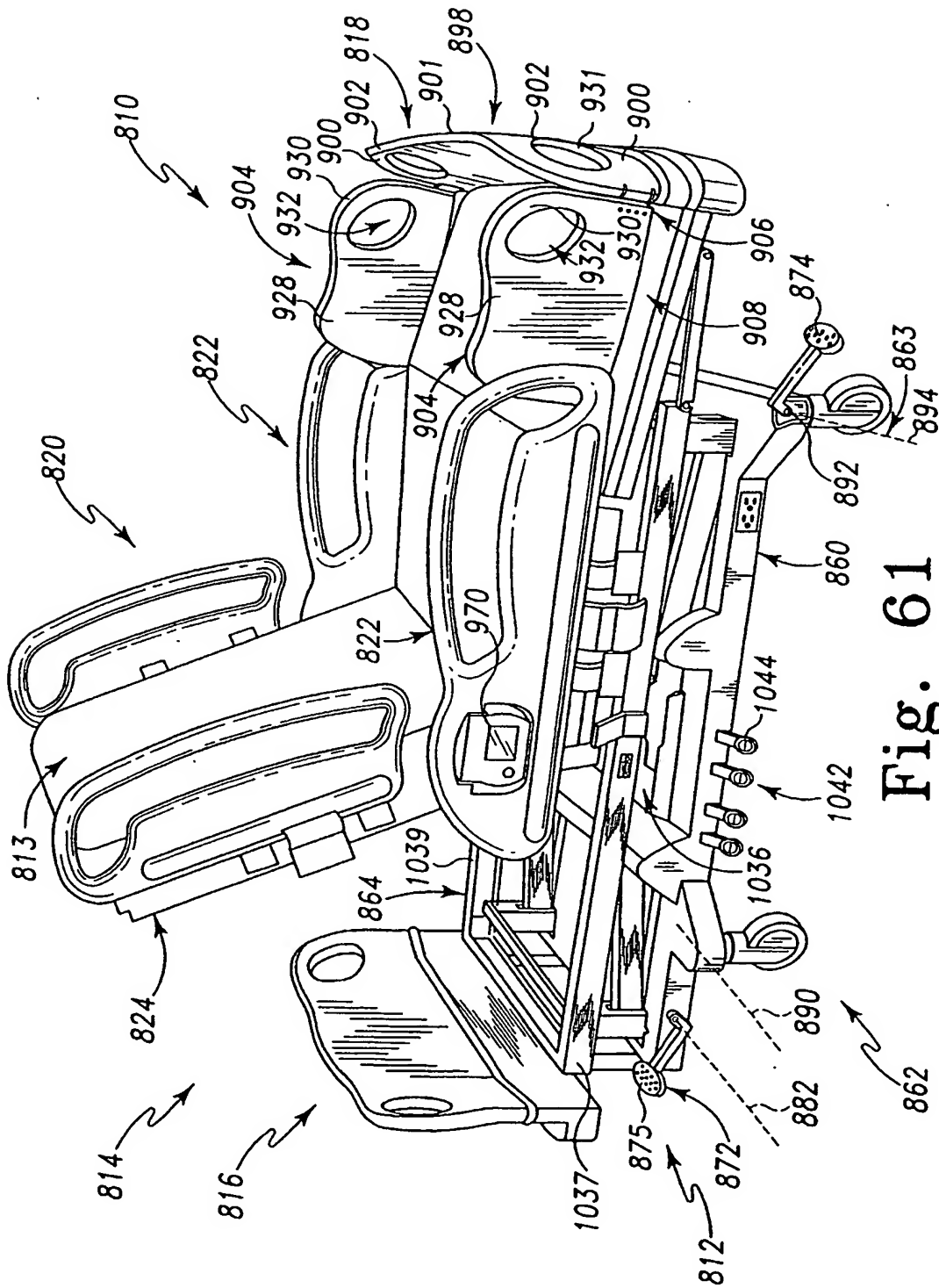


Fig. 61

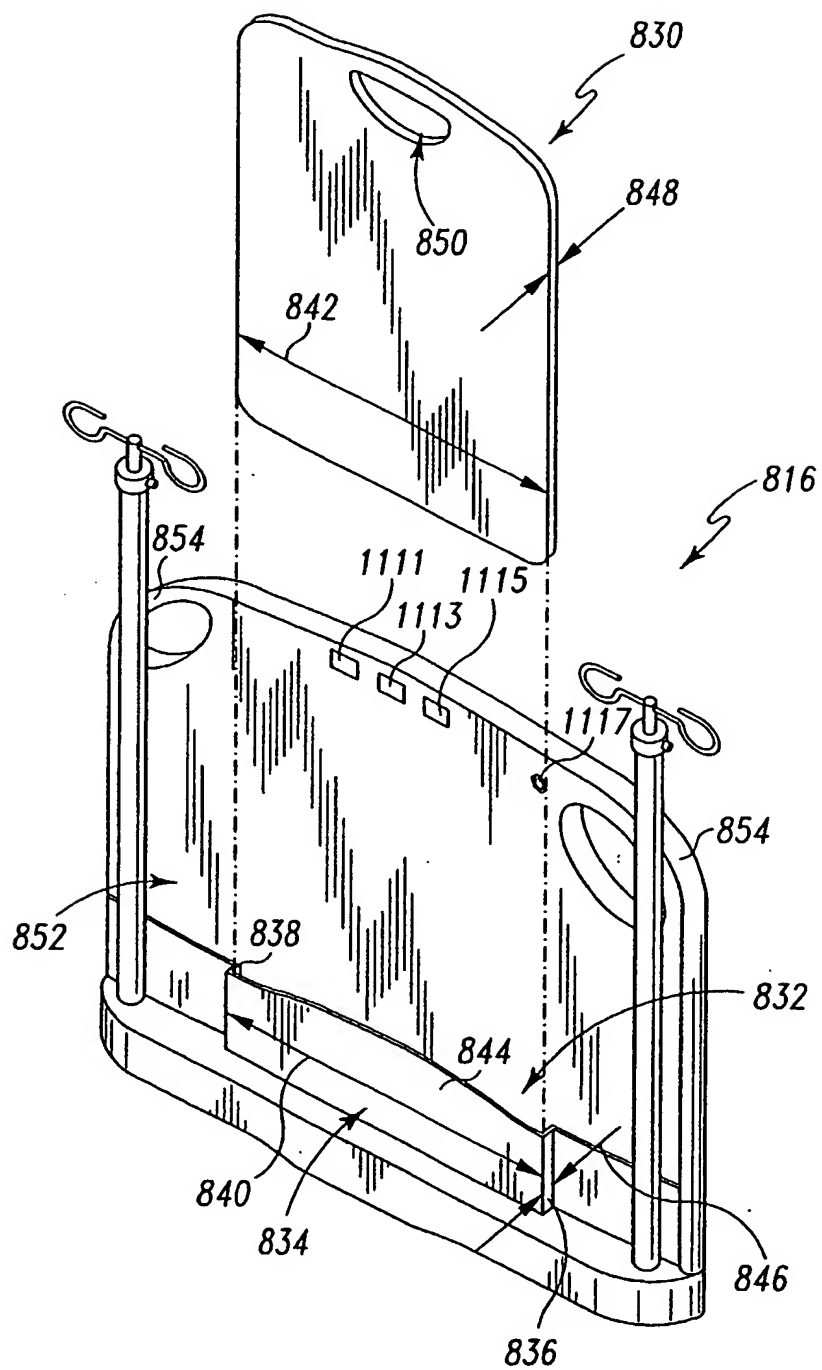


Fig. 62

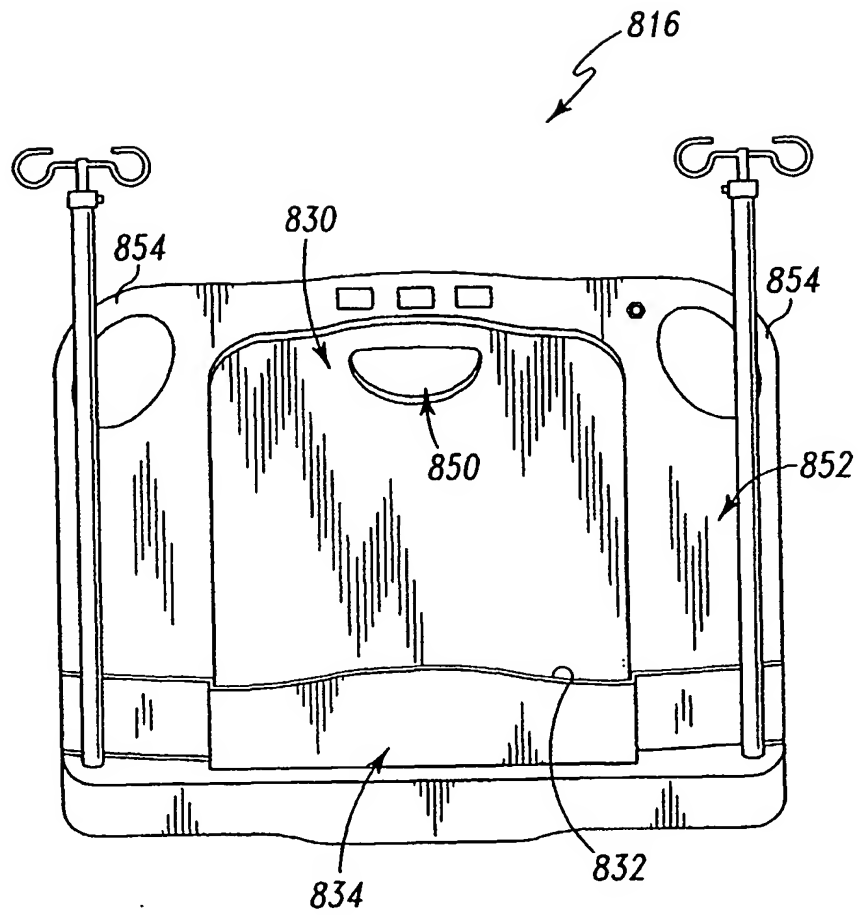


Fig. 64

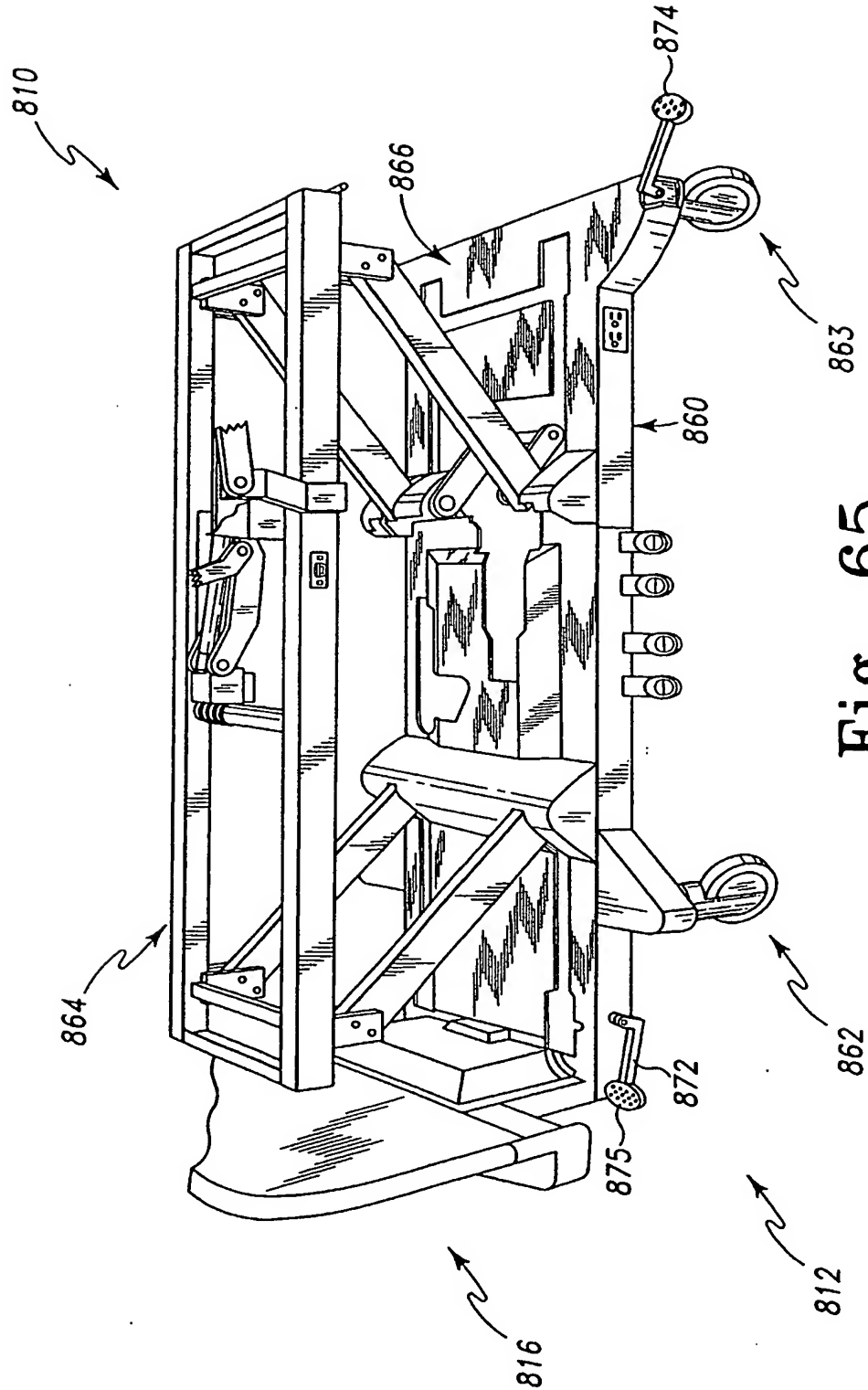
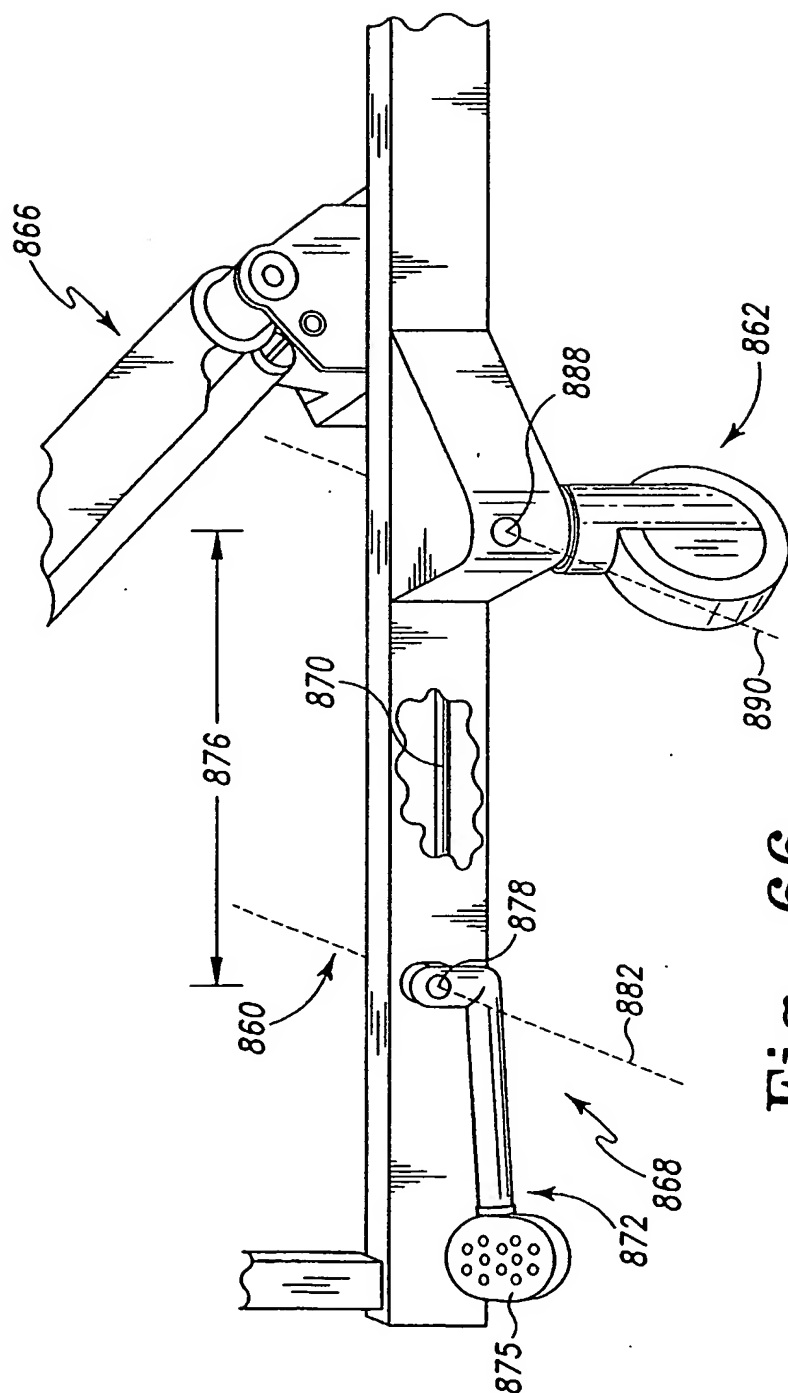
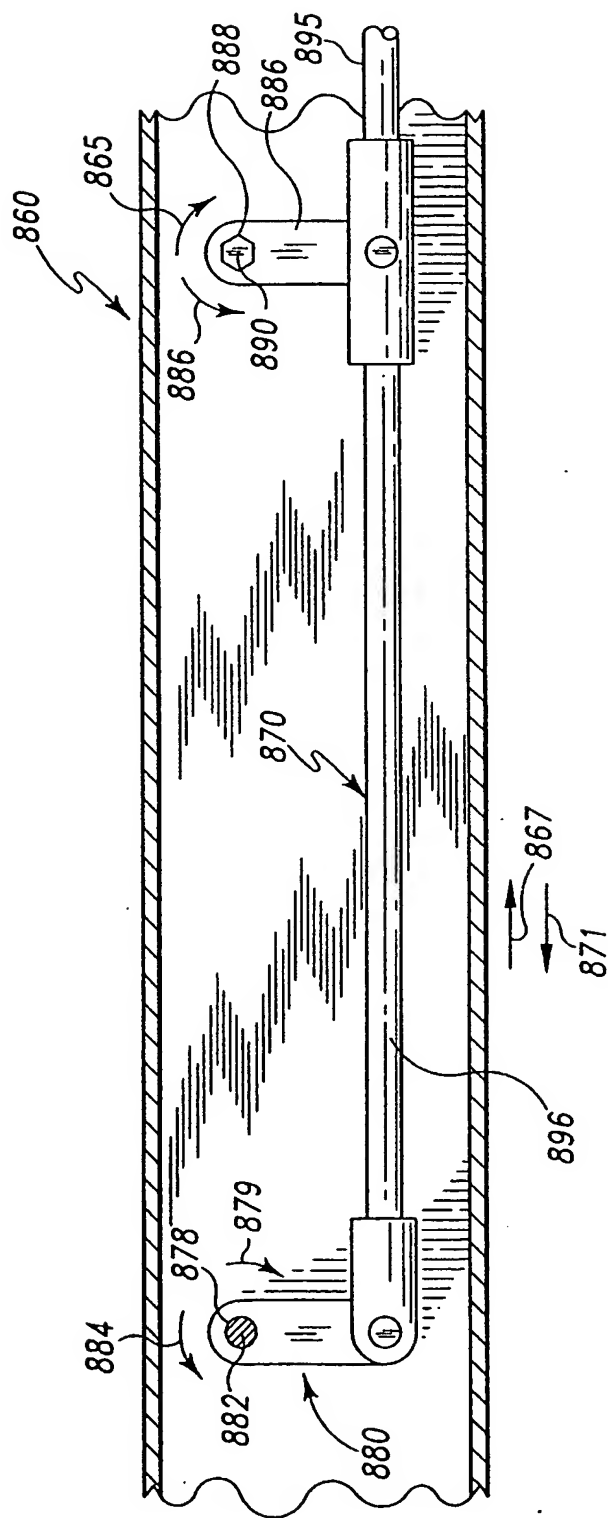


Fig. 65





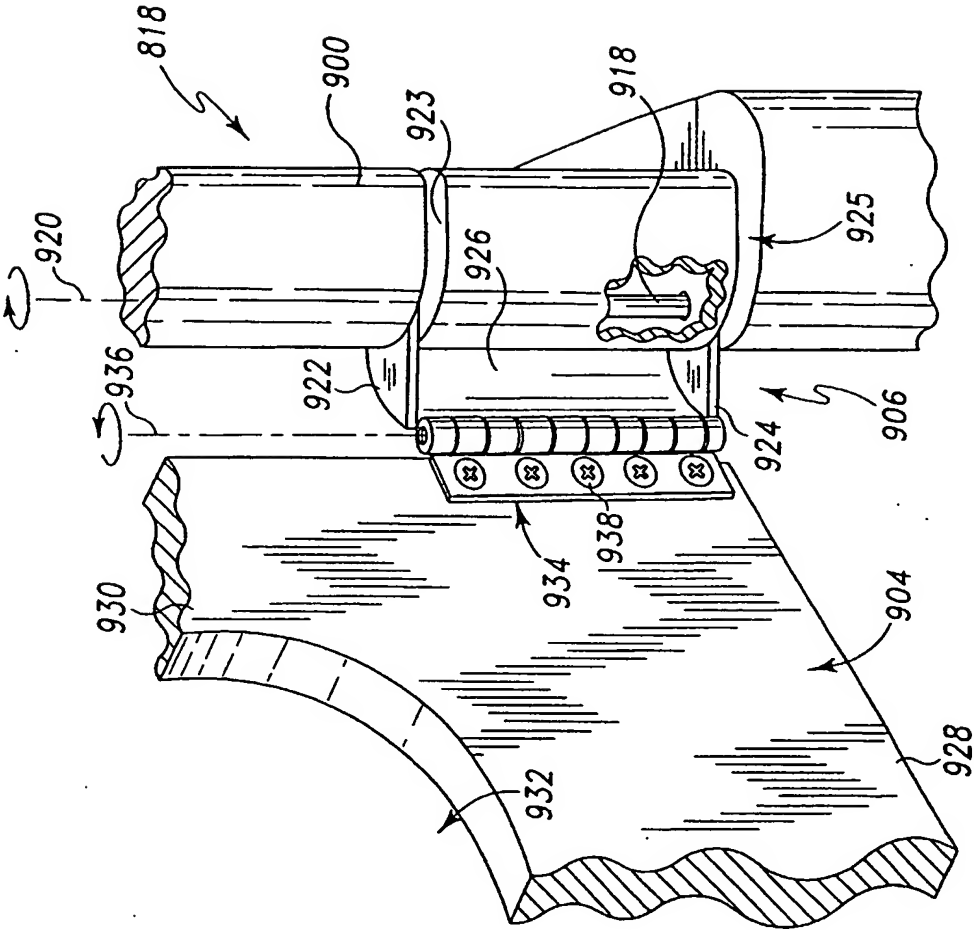


Fig. 68

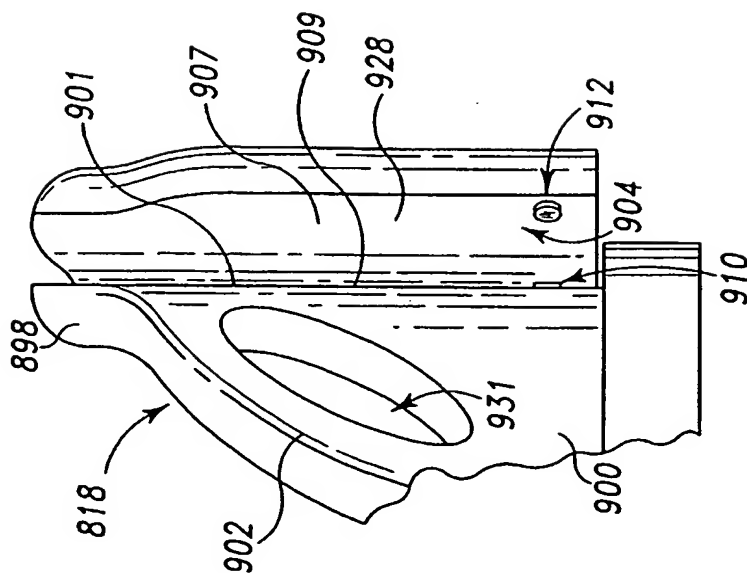


Fig. 69

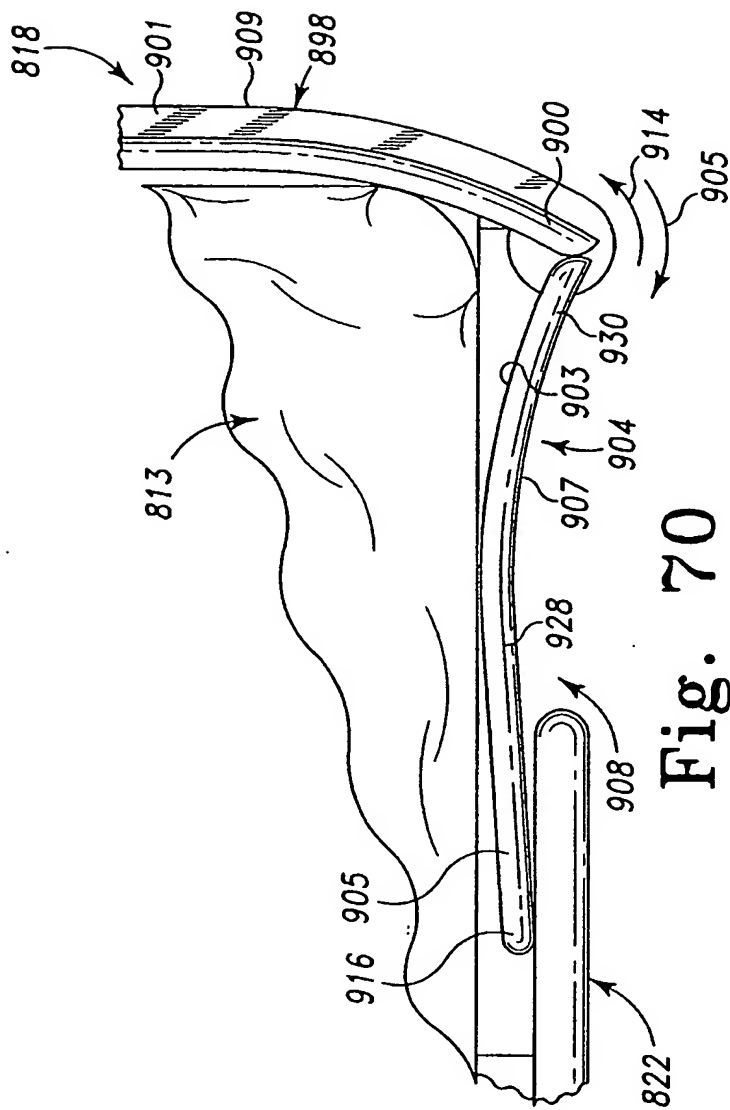


Fig. 70

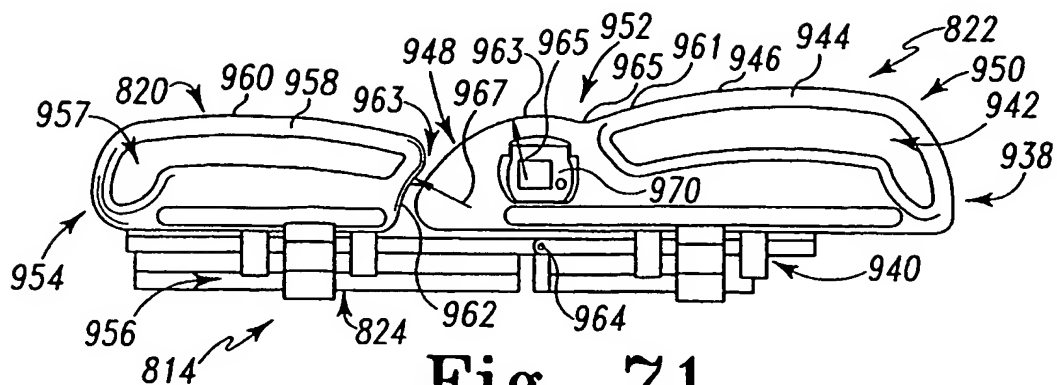


Fig. 71

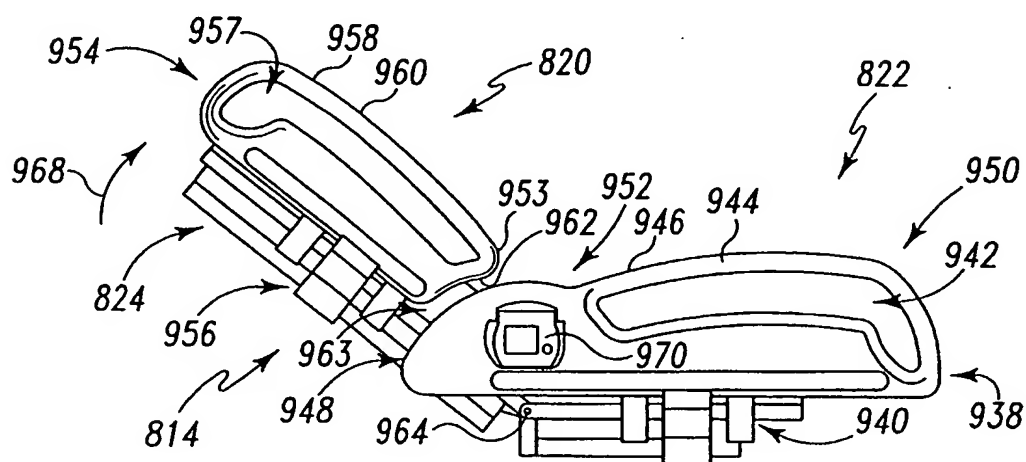


Fig. 72

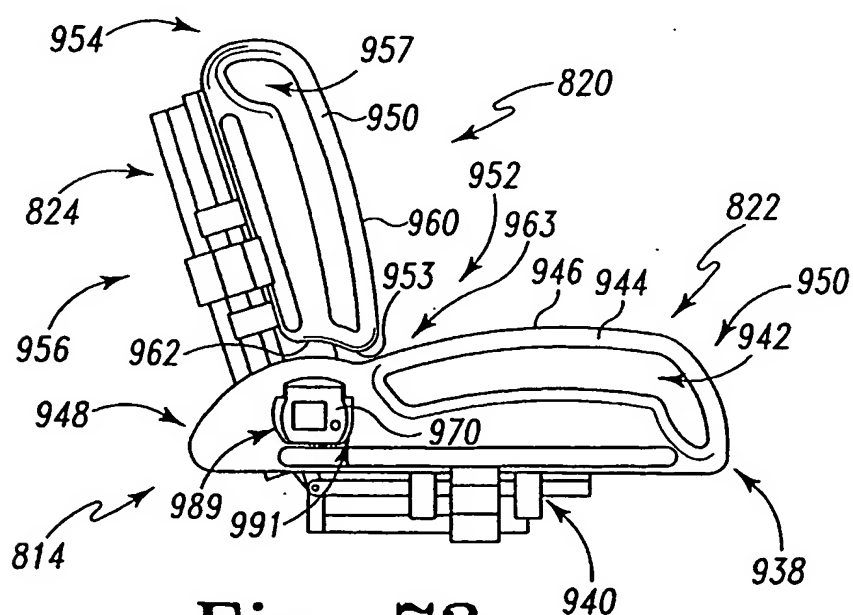
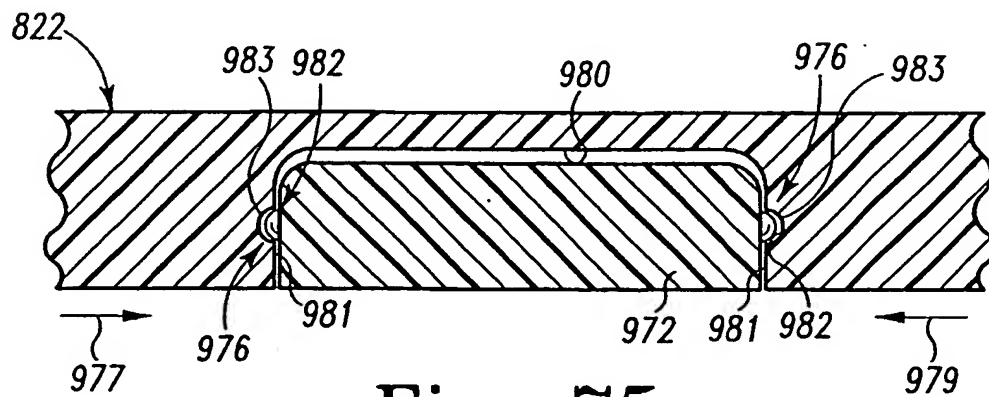
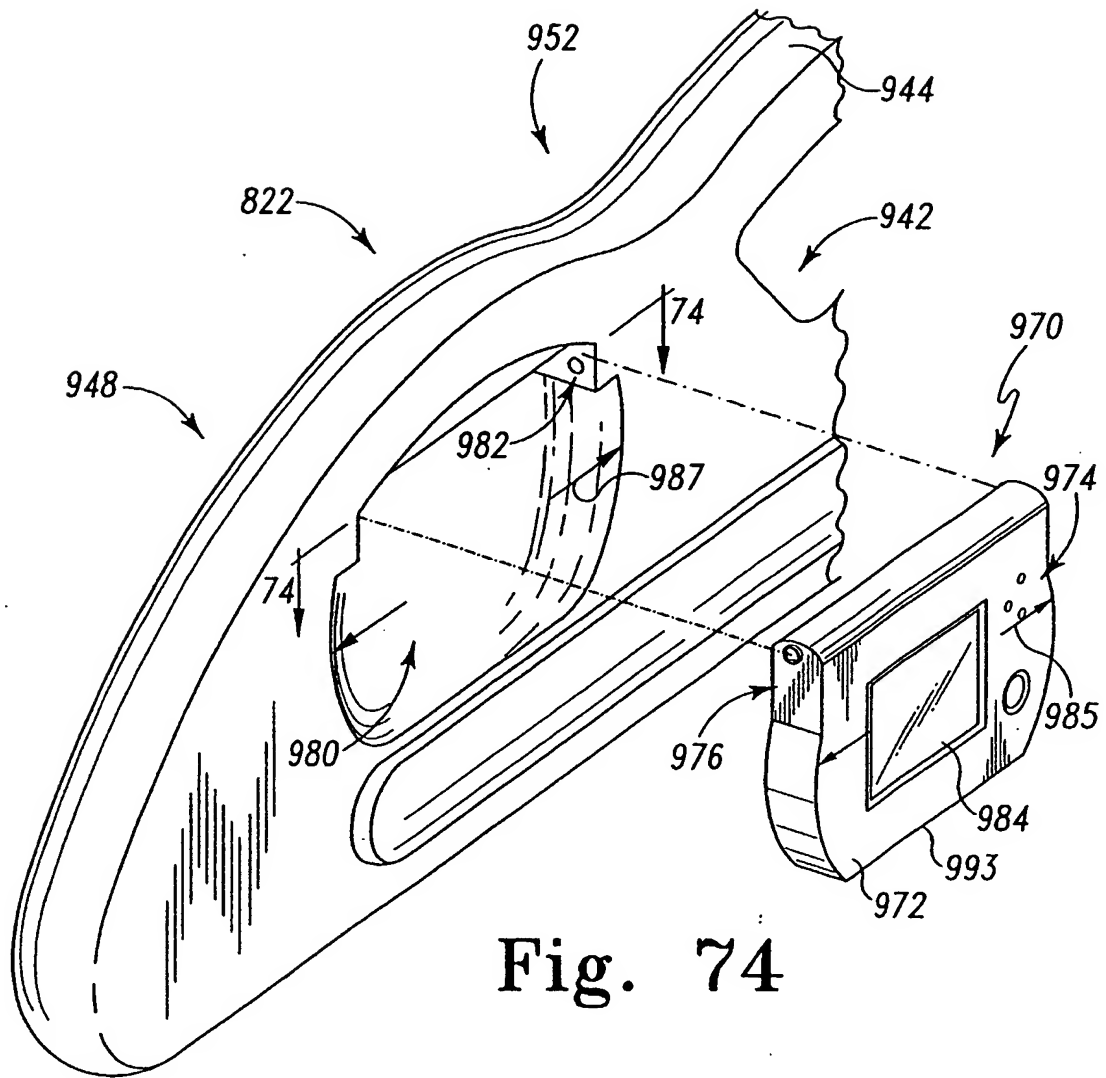


Fig. 73



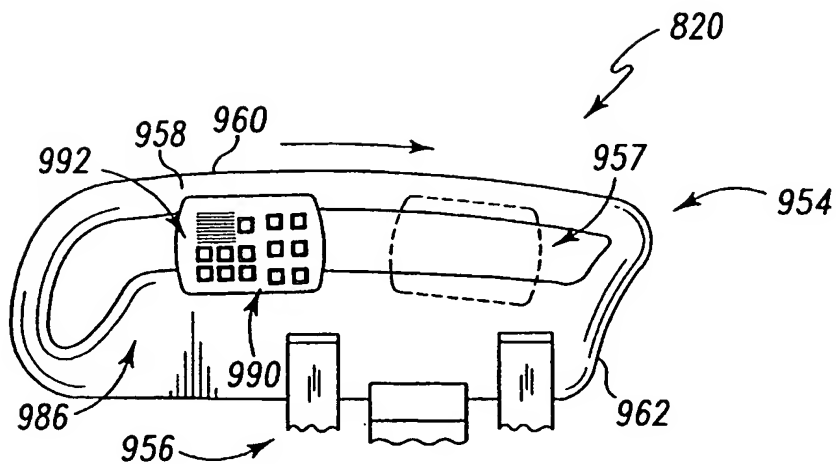


Fig. 76

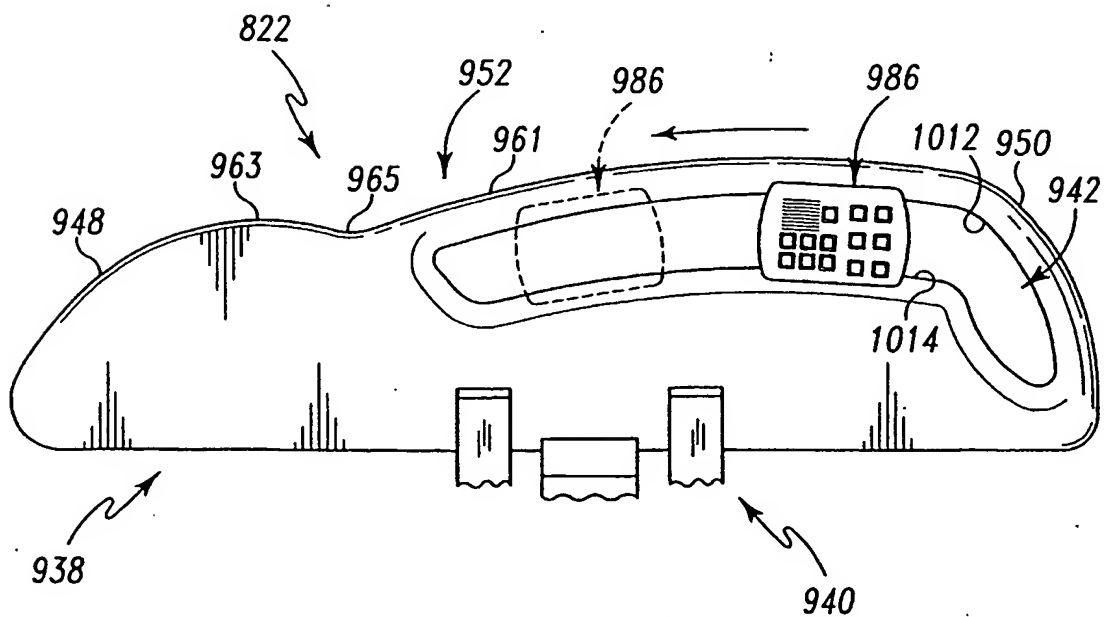
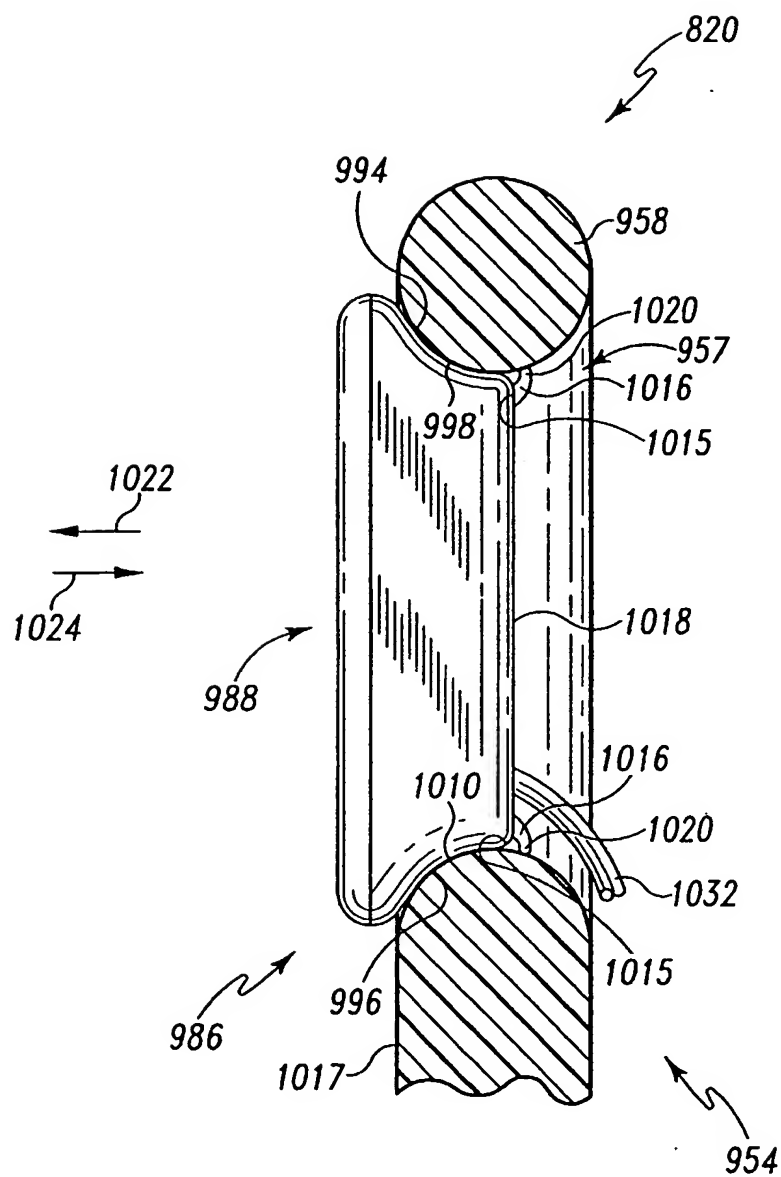


Fig. 78

**Fig. 77**

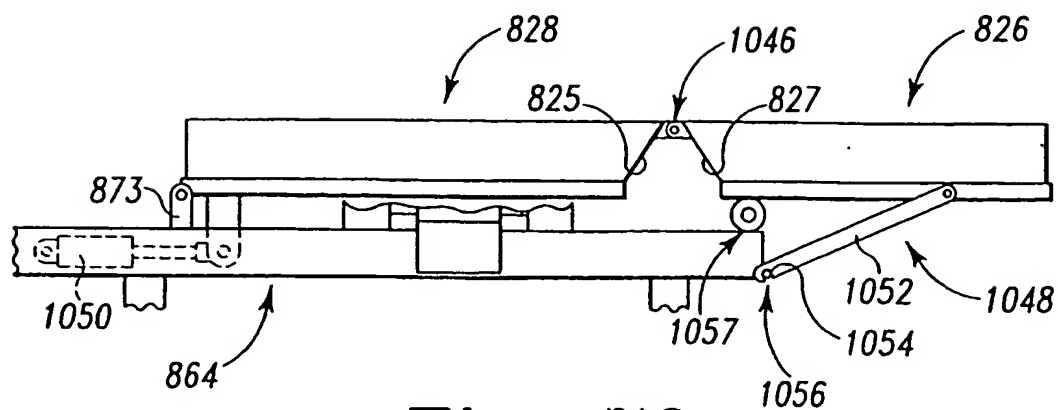


Fig. 79

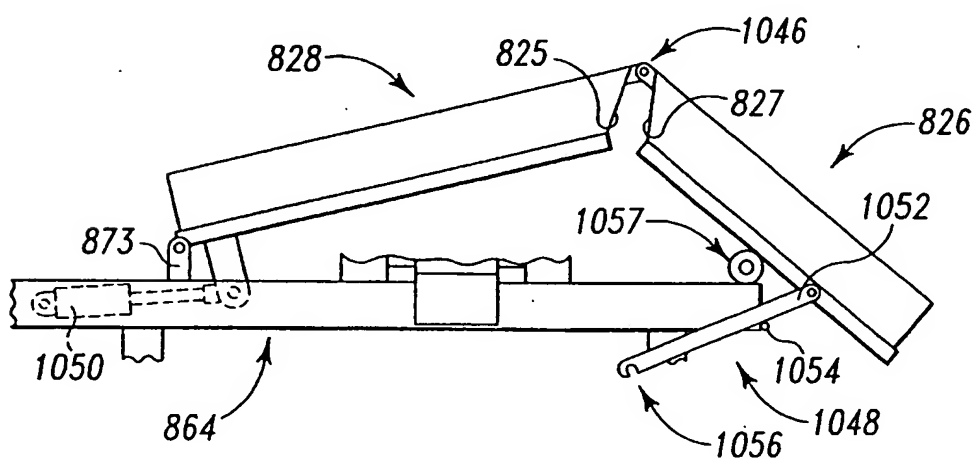


Fig. 80

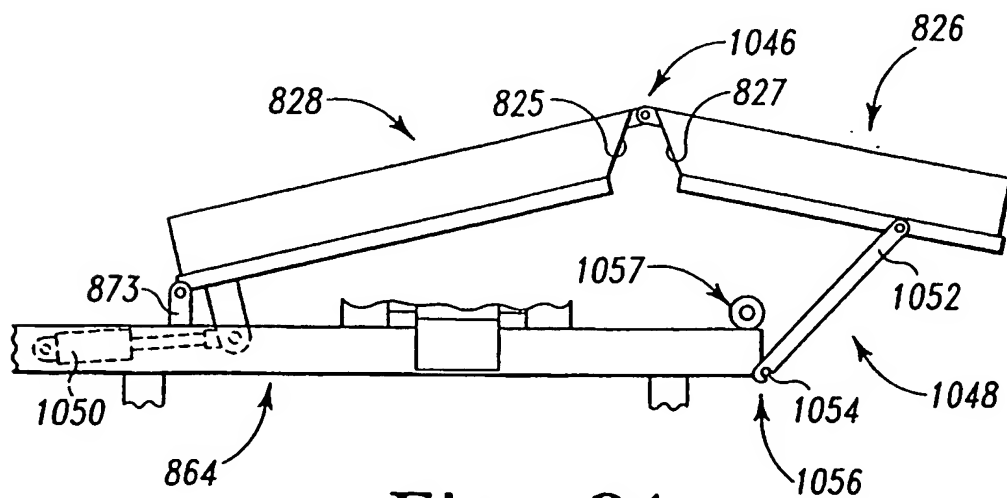


Fig. 81

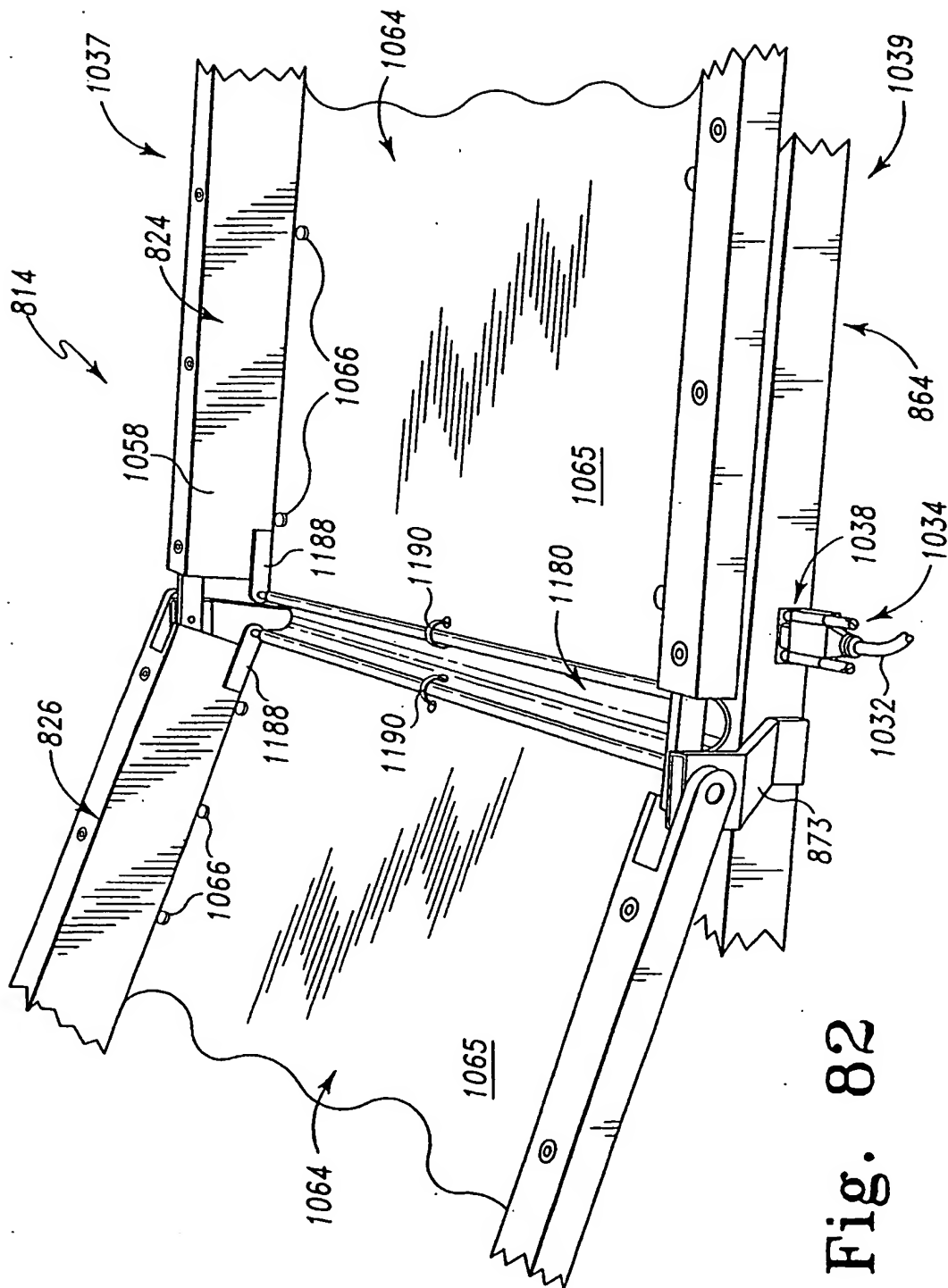


Fig. 82

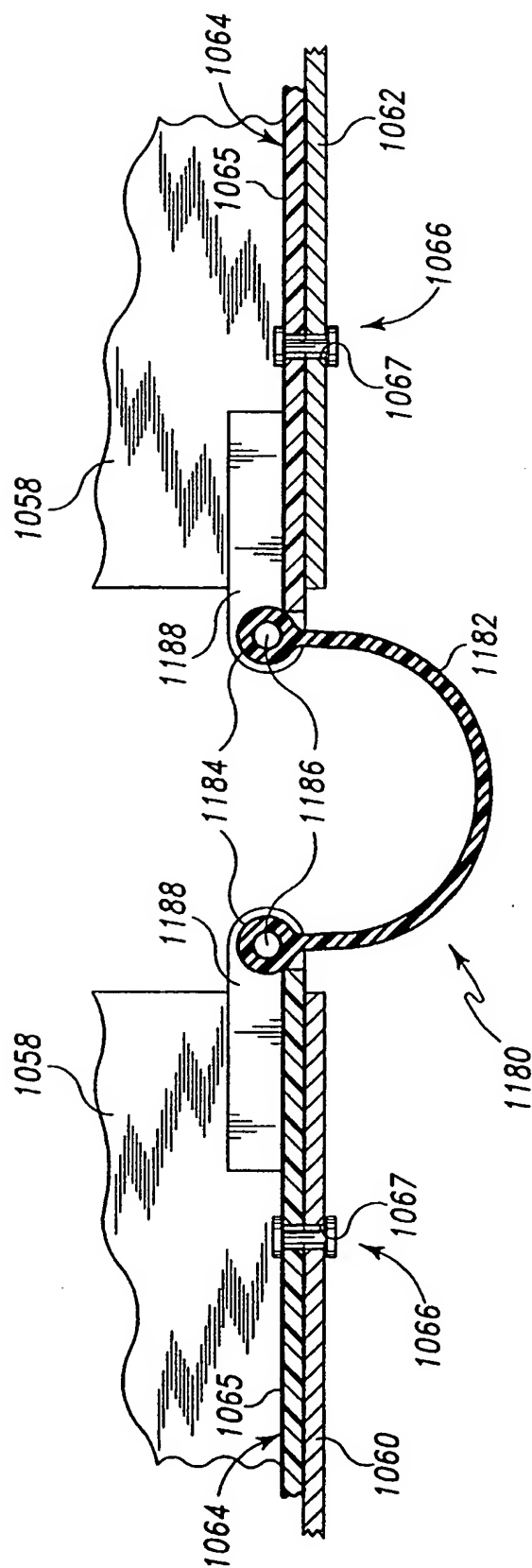


Fig. 83

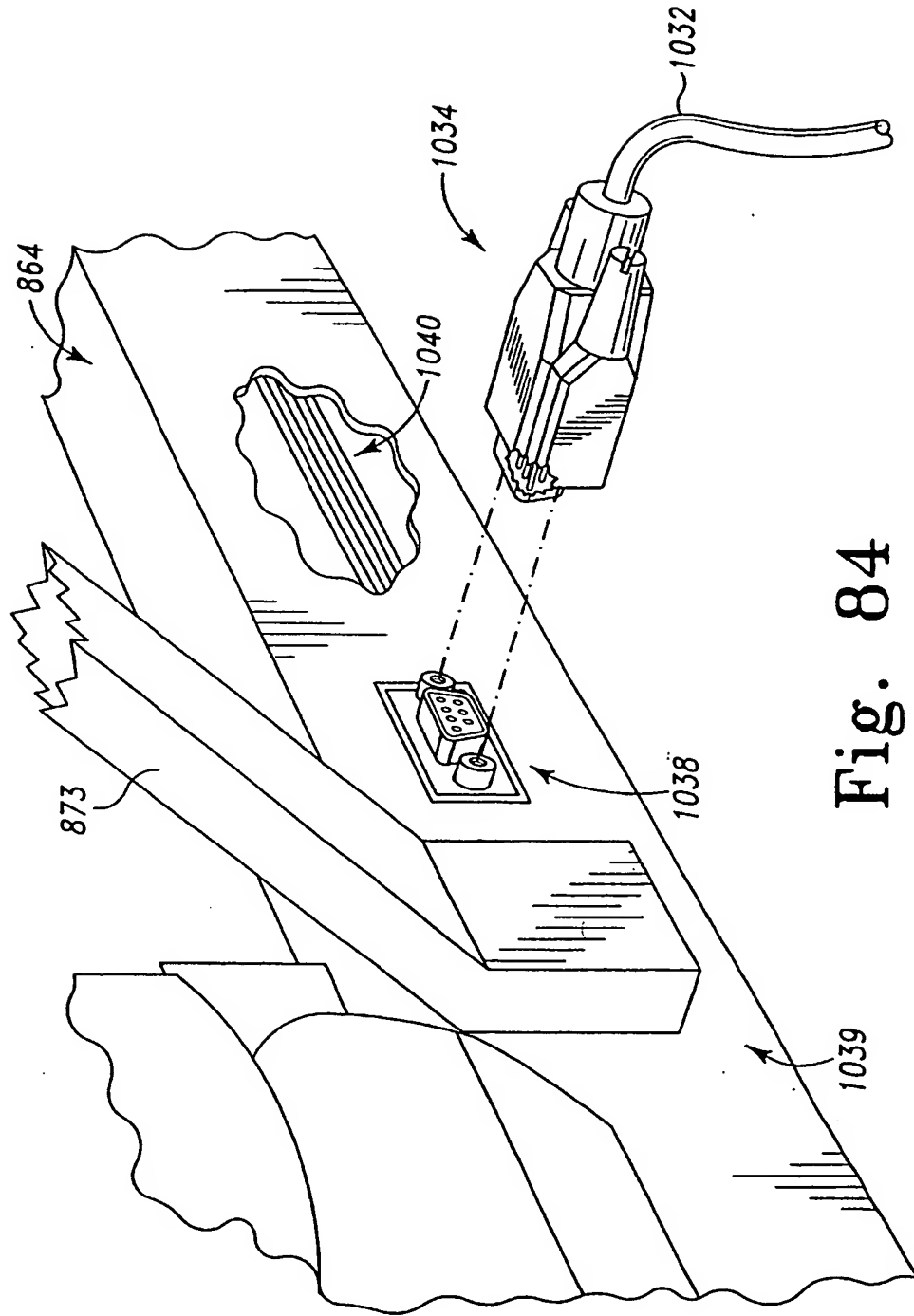


Fig. 84

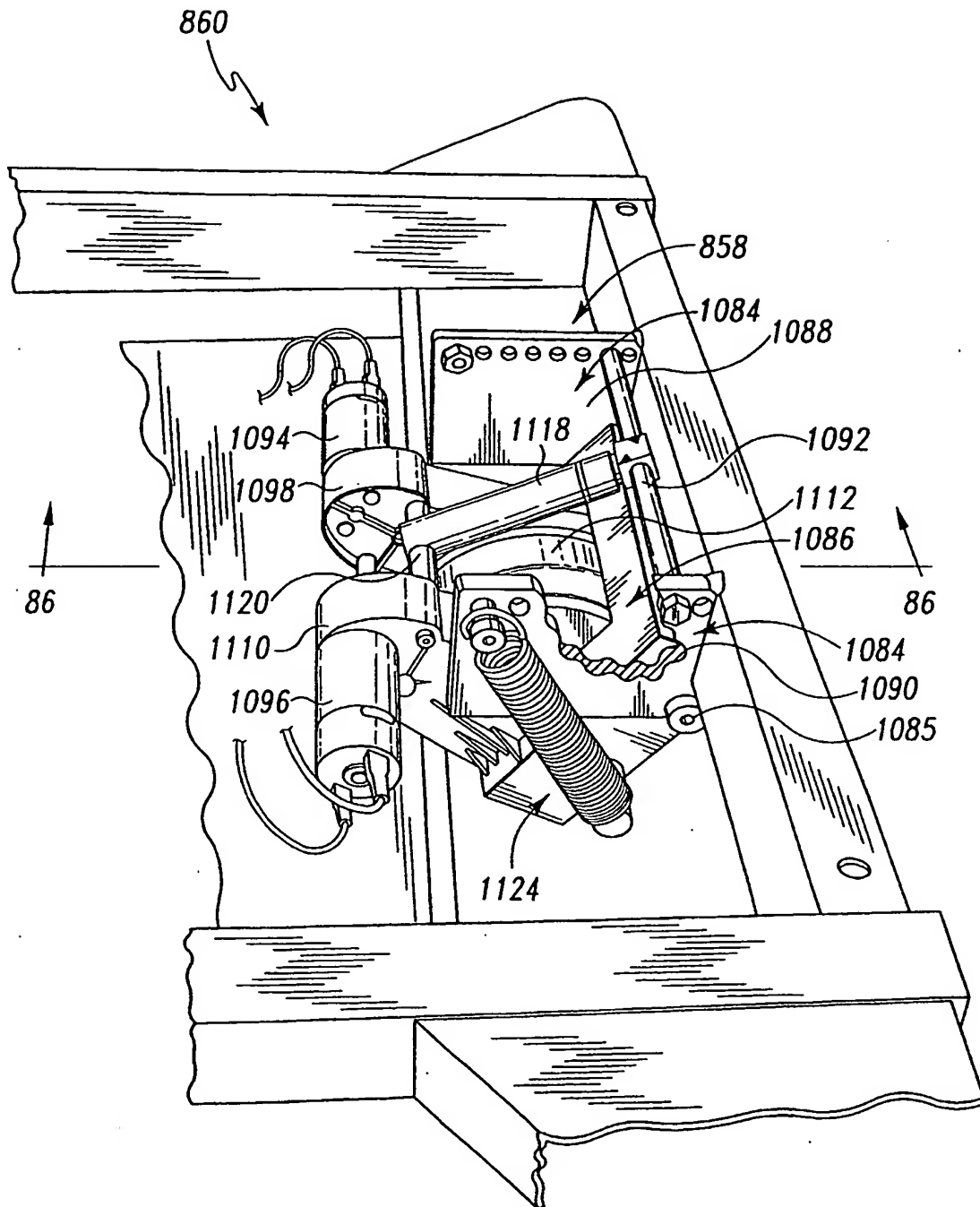


Fig. 85

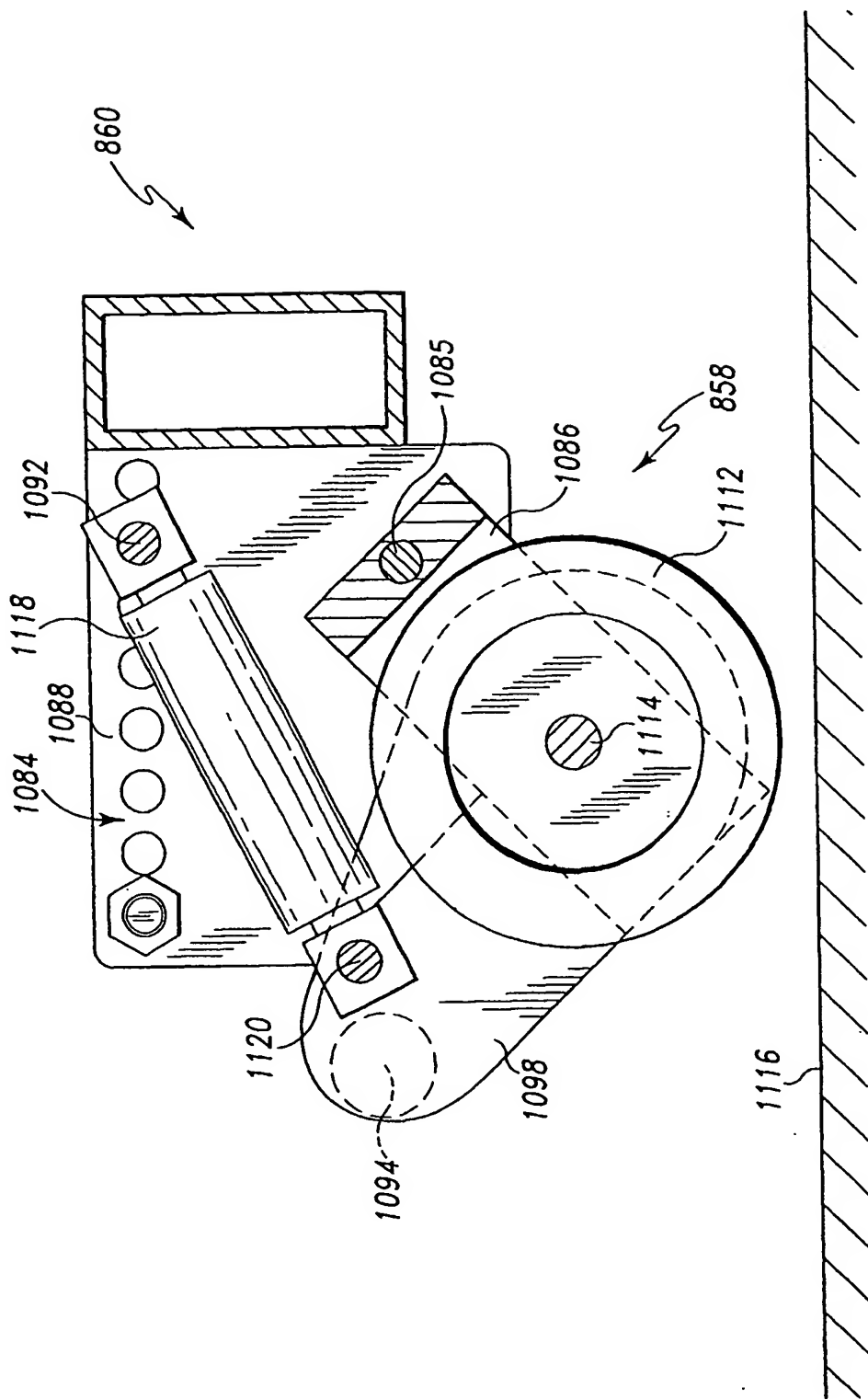


Fig. 86

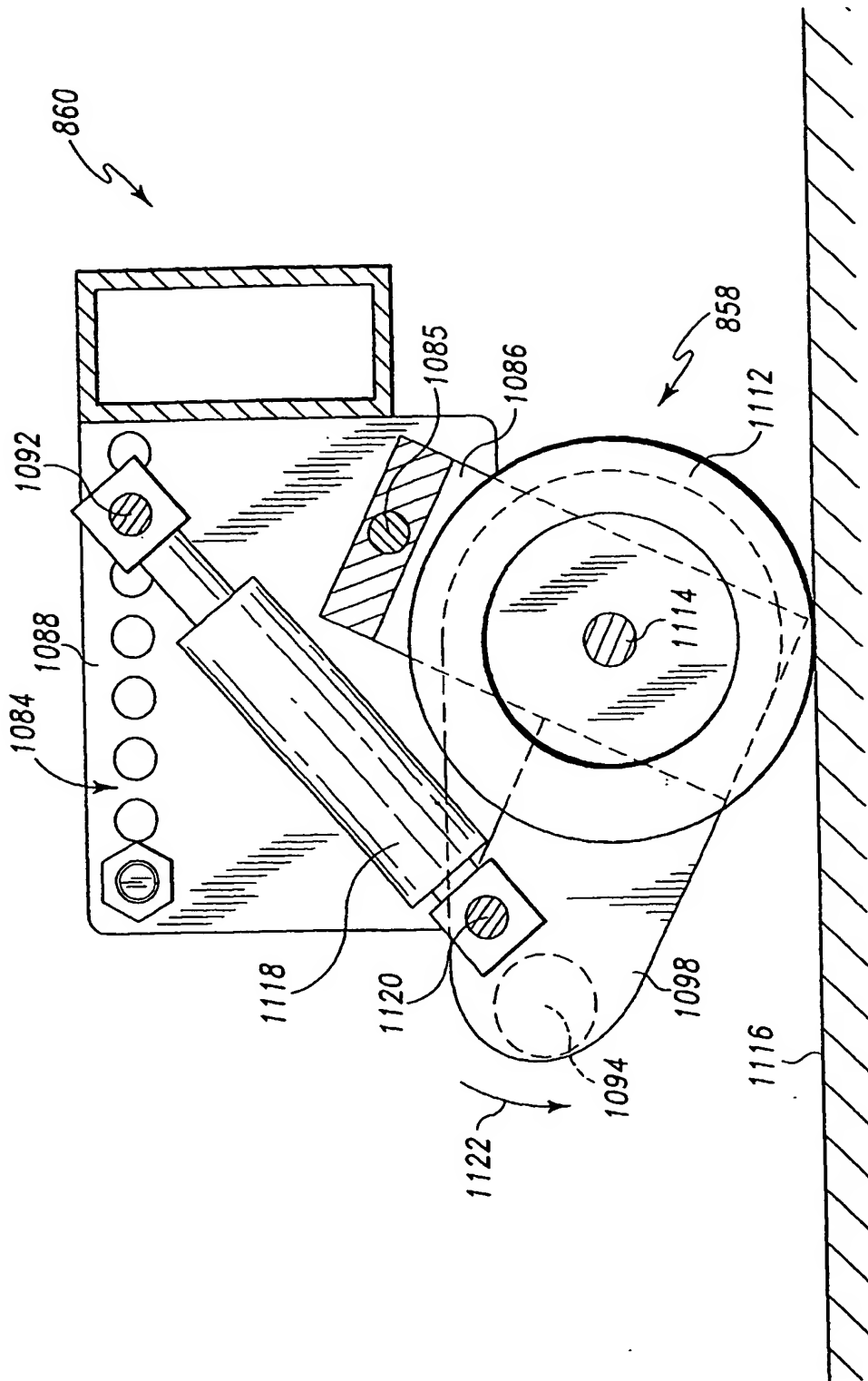


Fig. 87

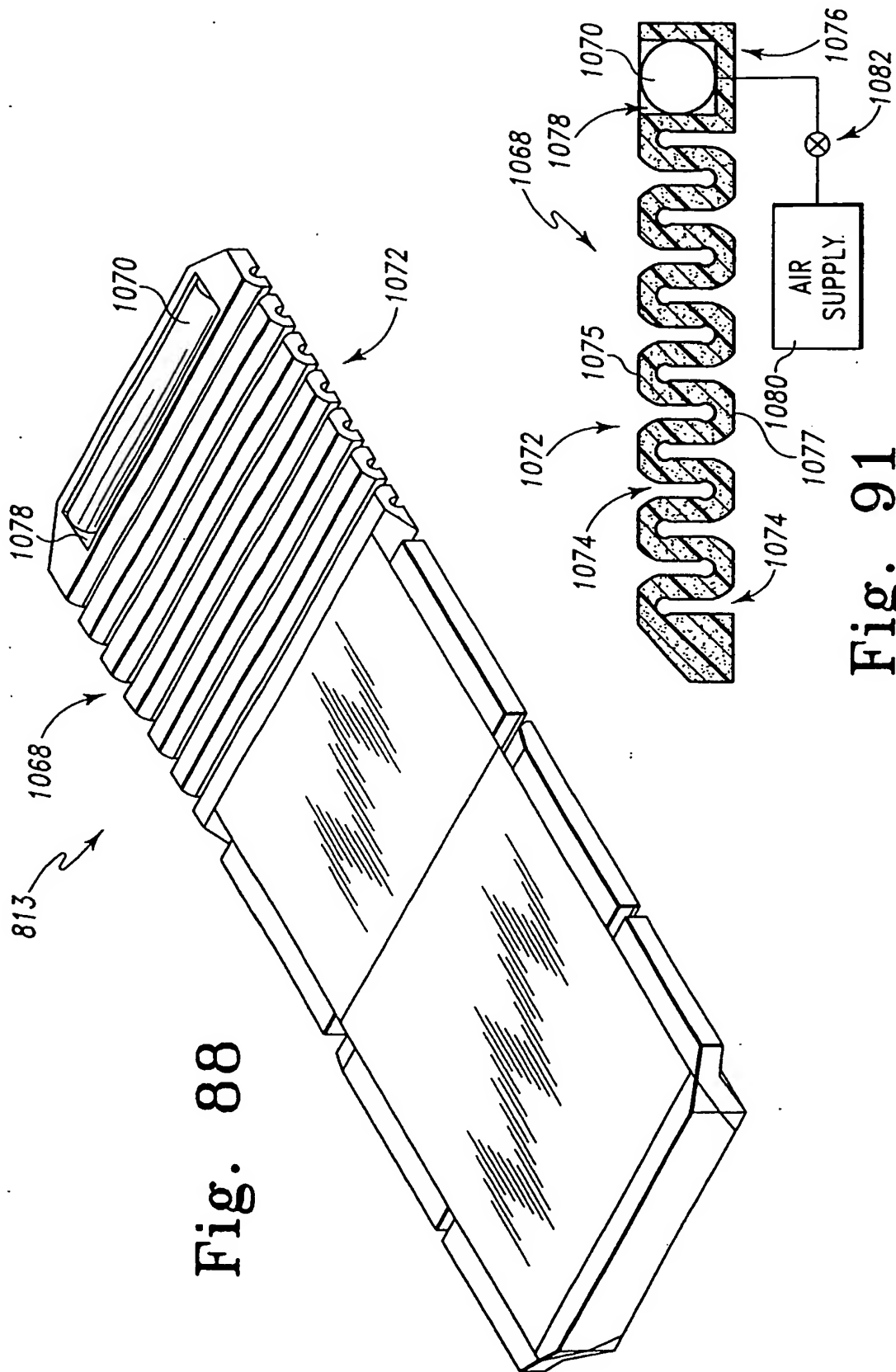
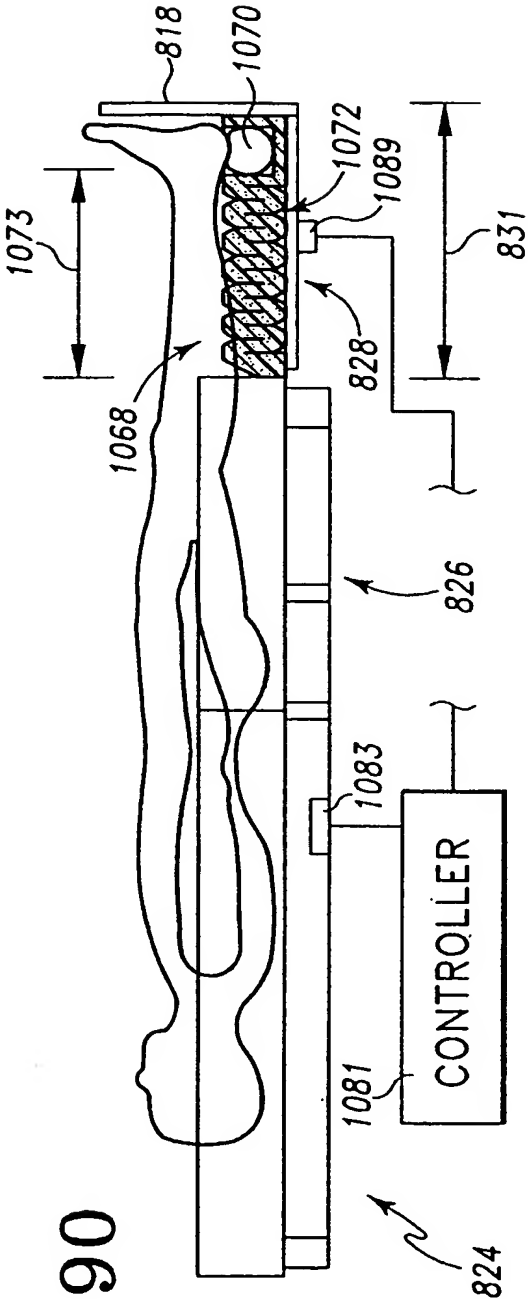
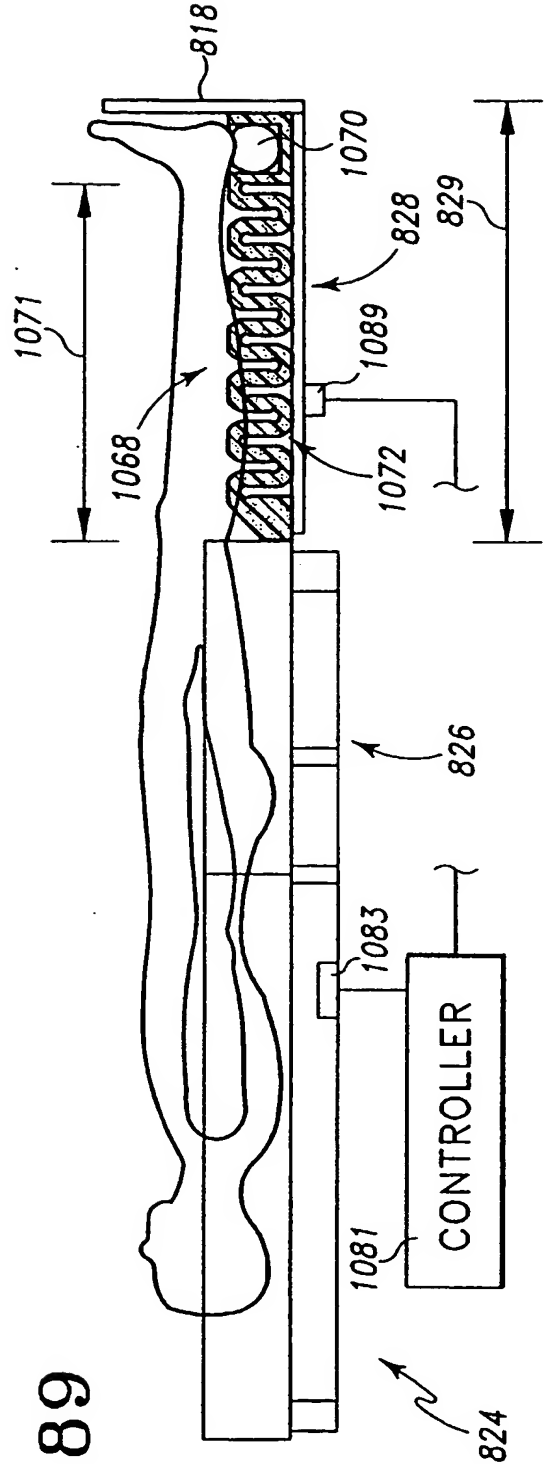


Fig. 88

Fig. 91



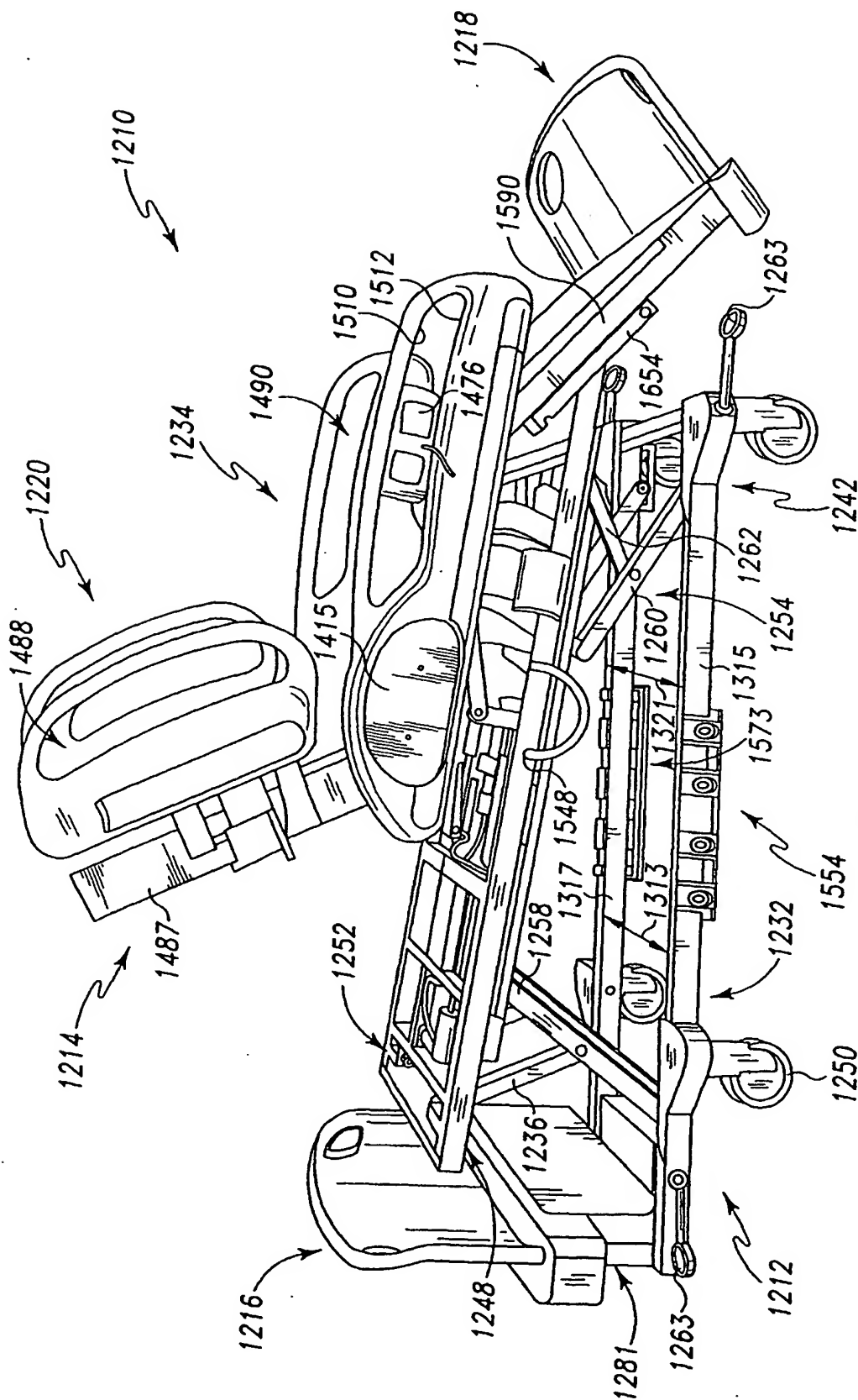


Fig. 92

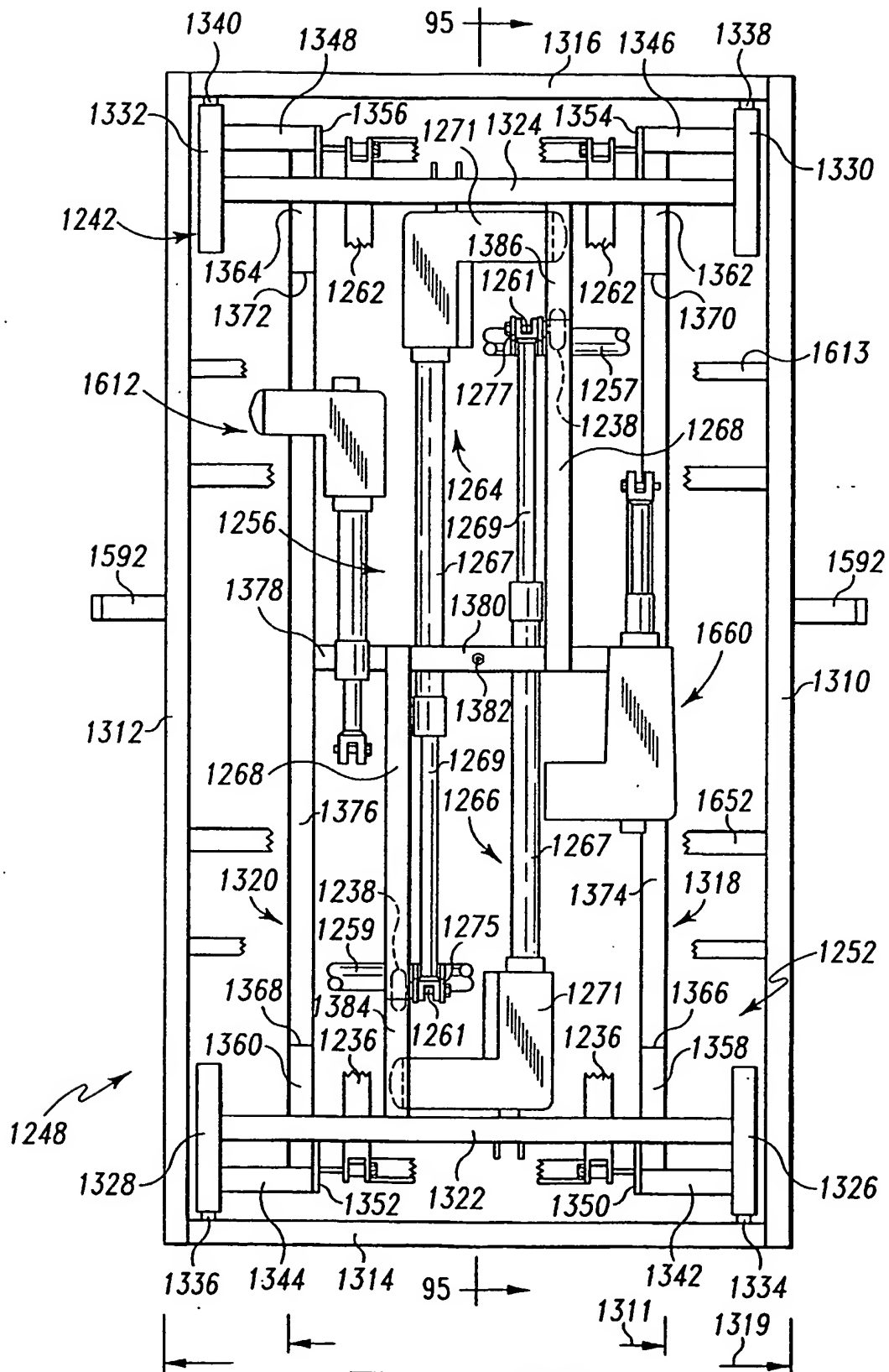


Fig. 93

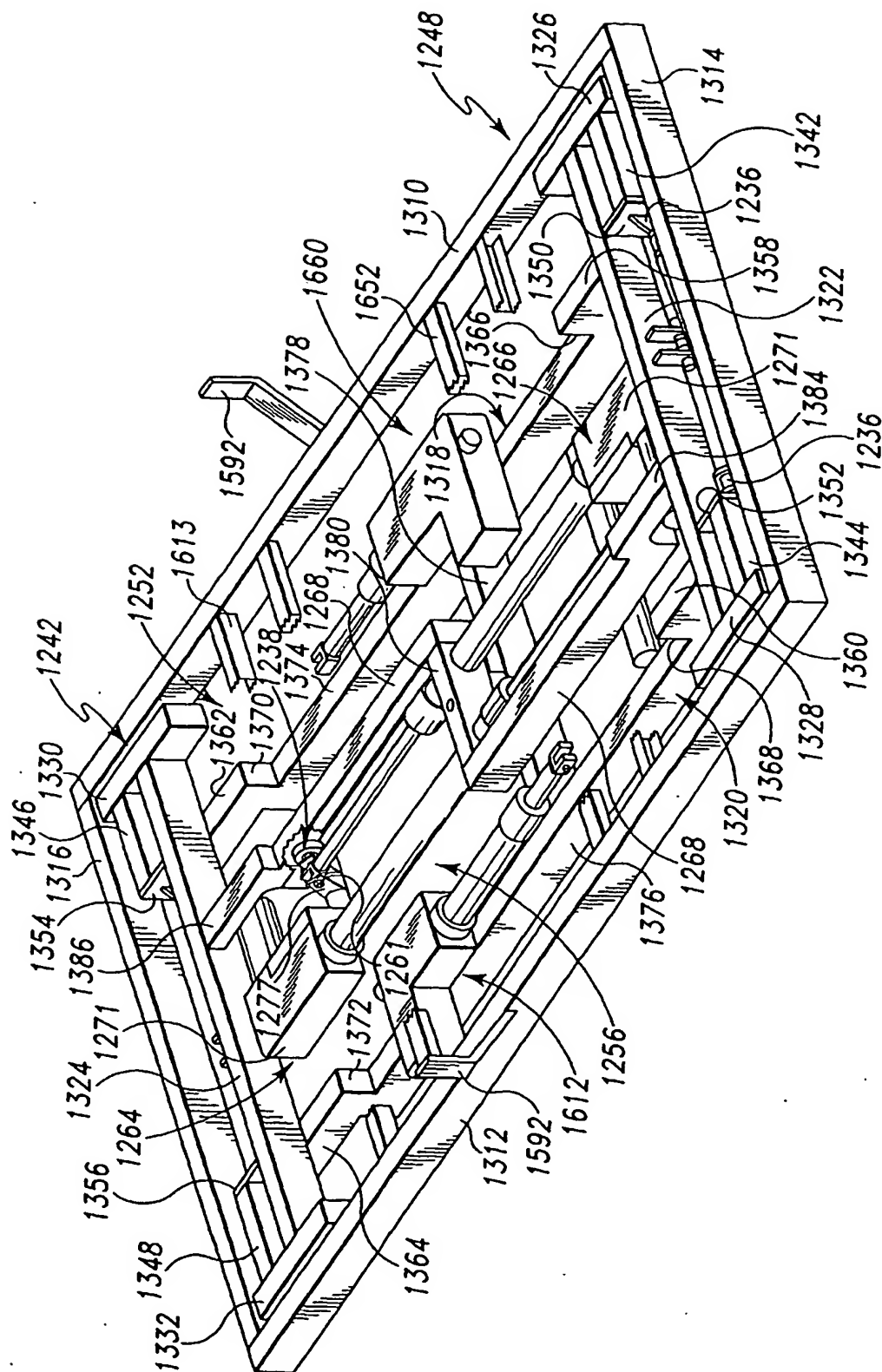
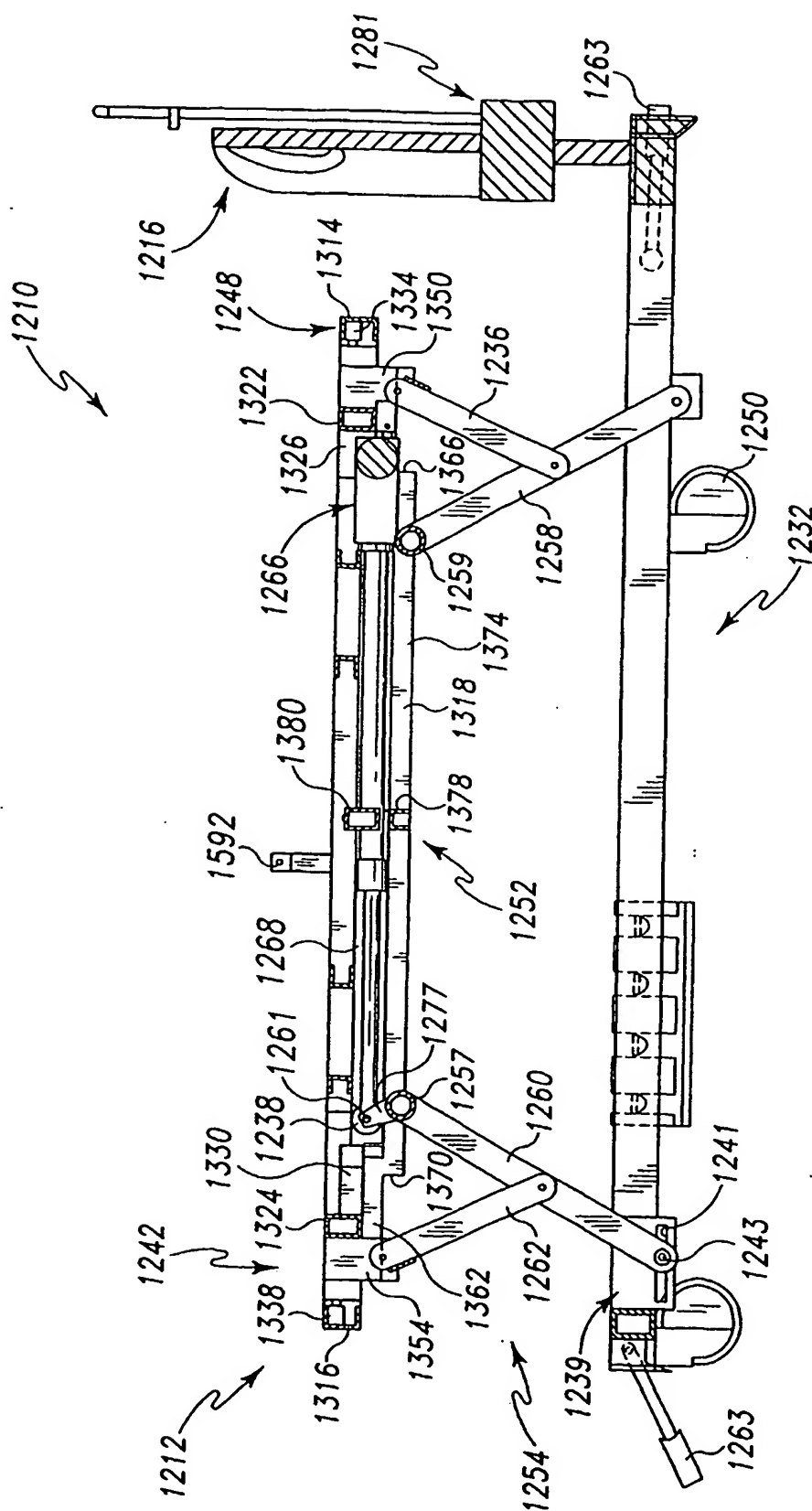


Fig. 94



Fi. 95

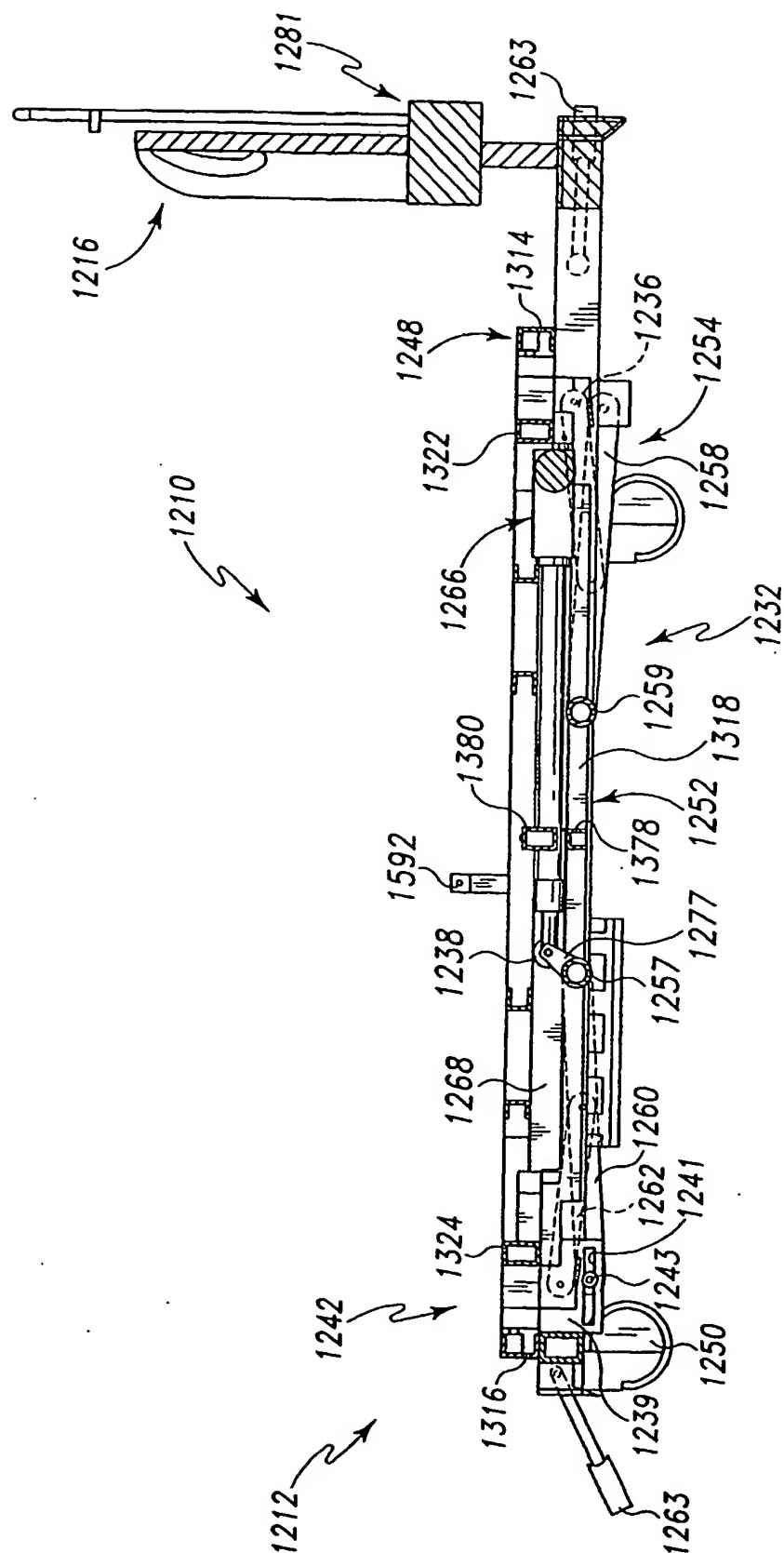


Fig. 96

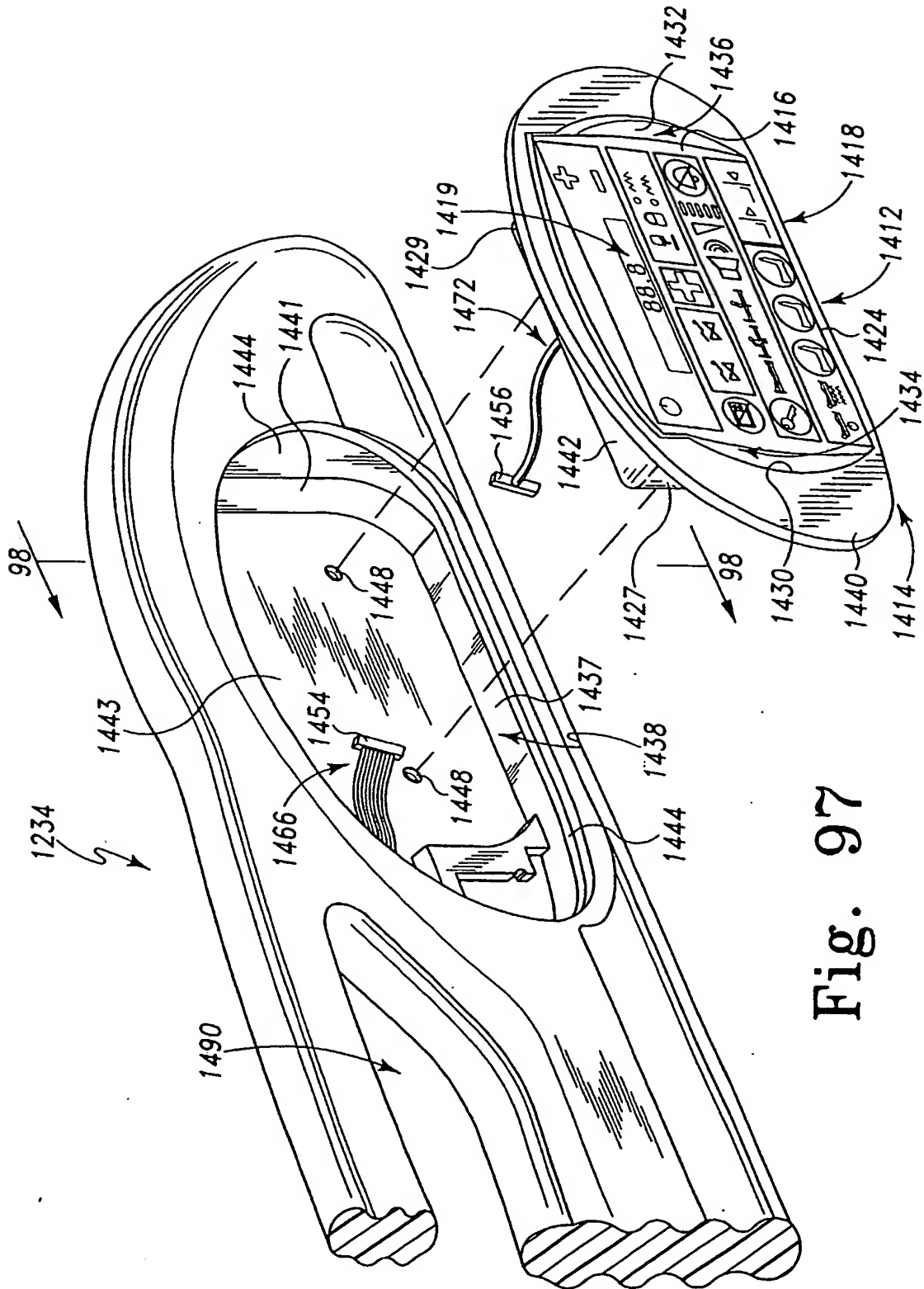


Fig. 97

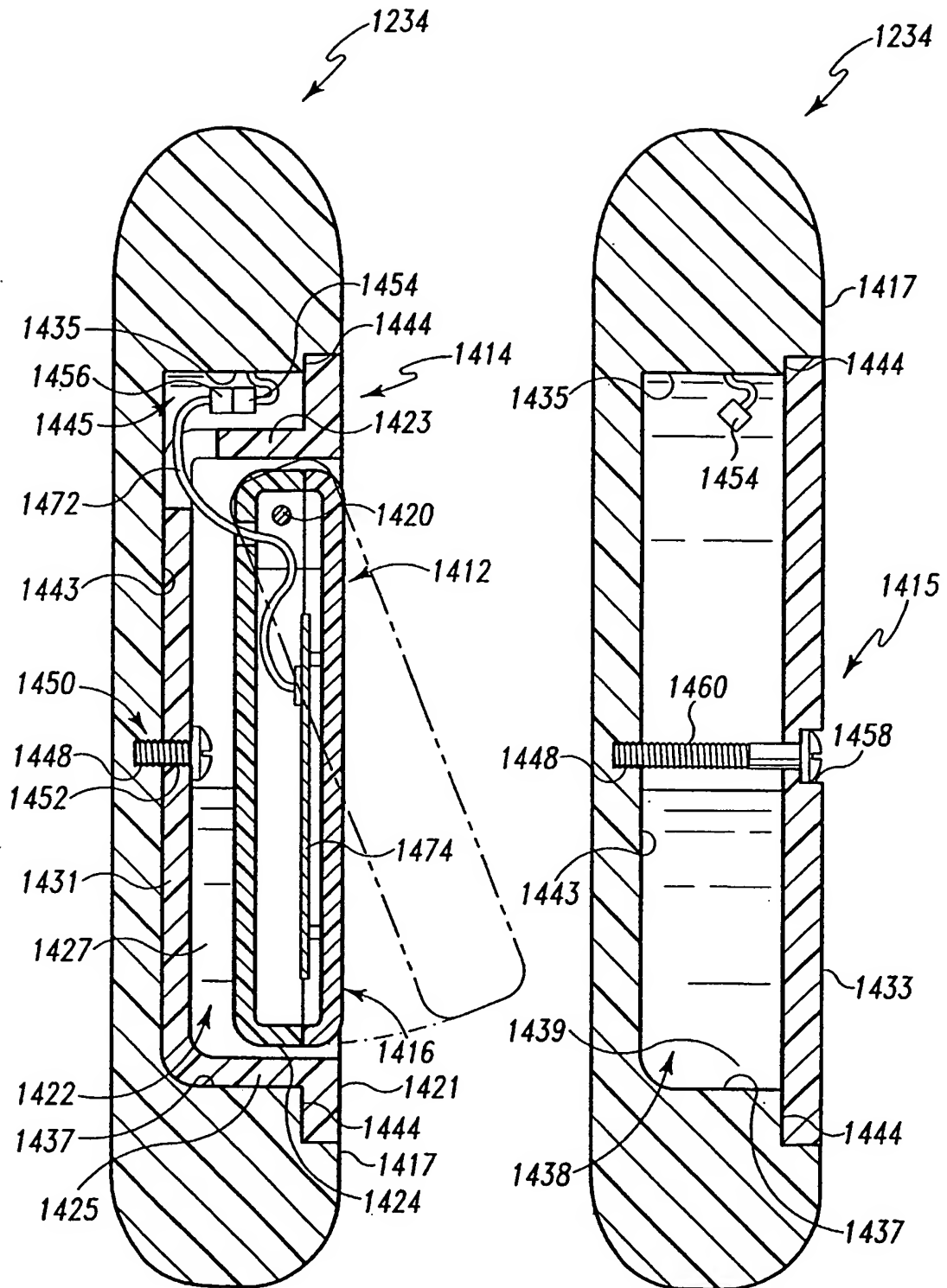


Fig. 98

Fig. 100

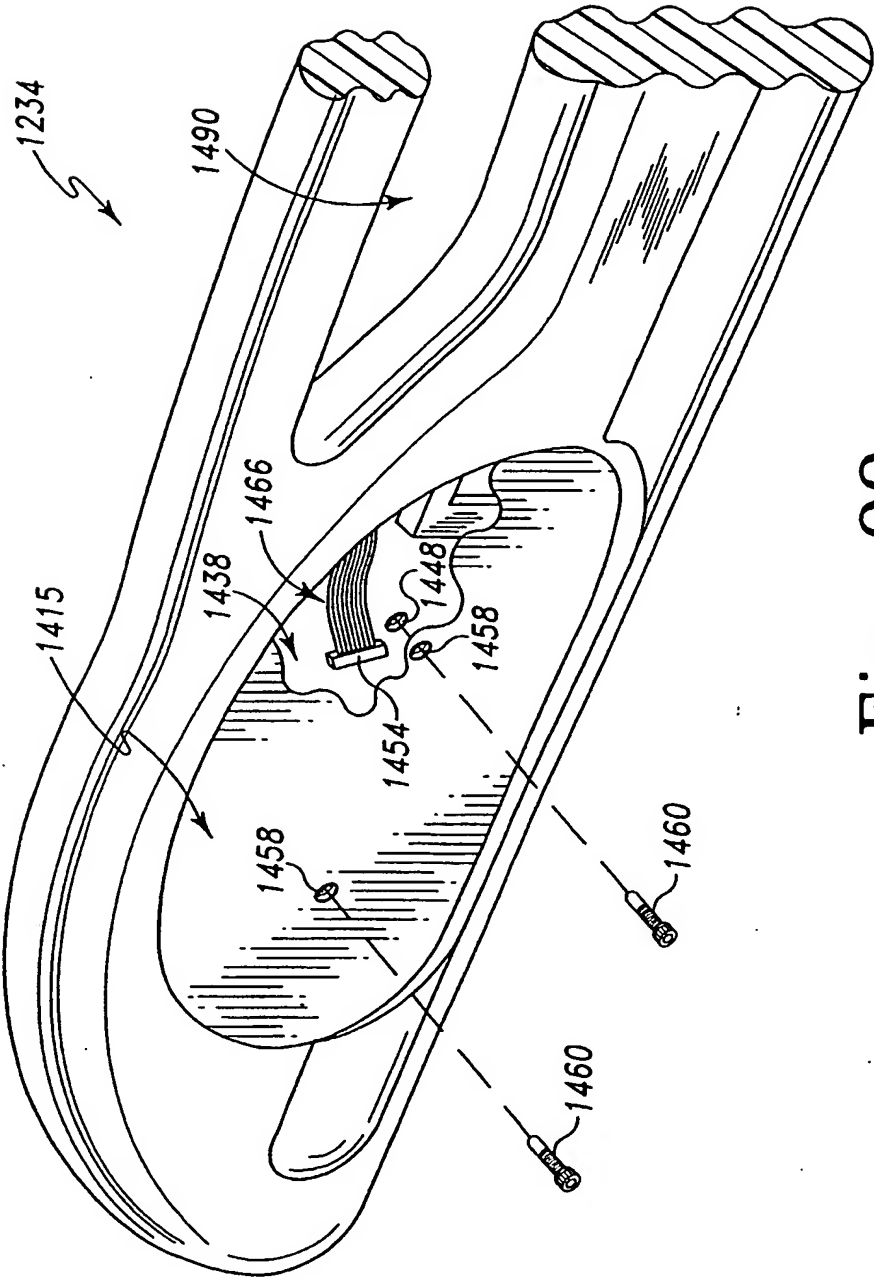


Fig. 99

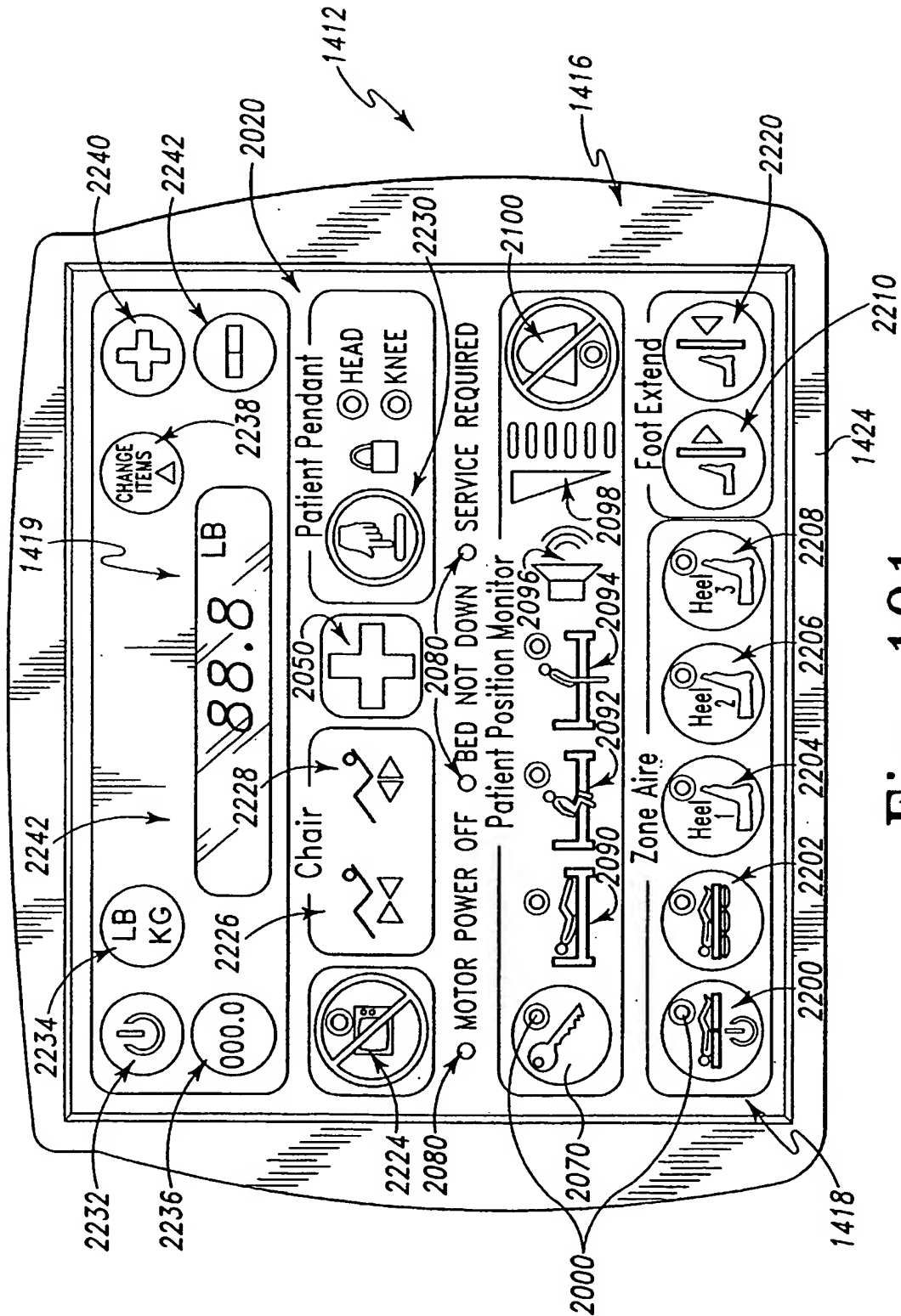


Fig. 101

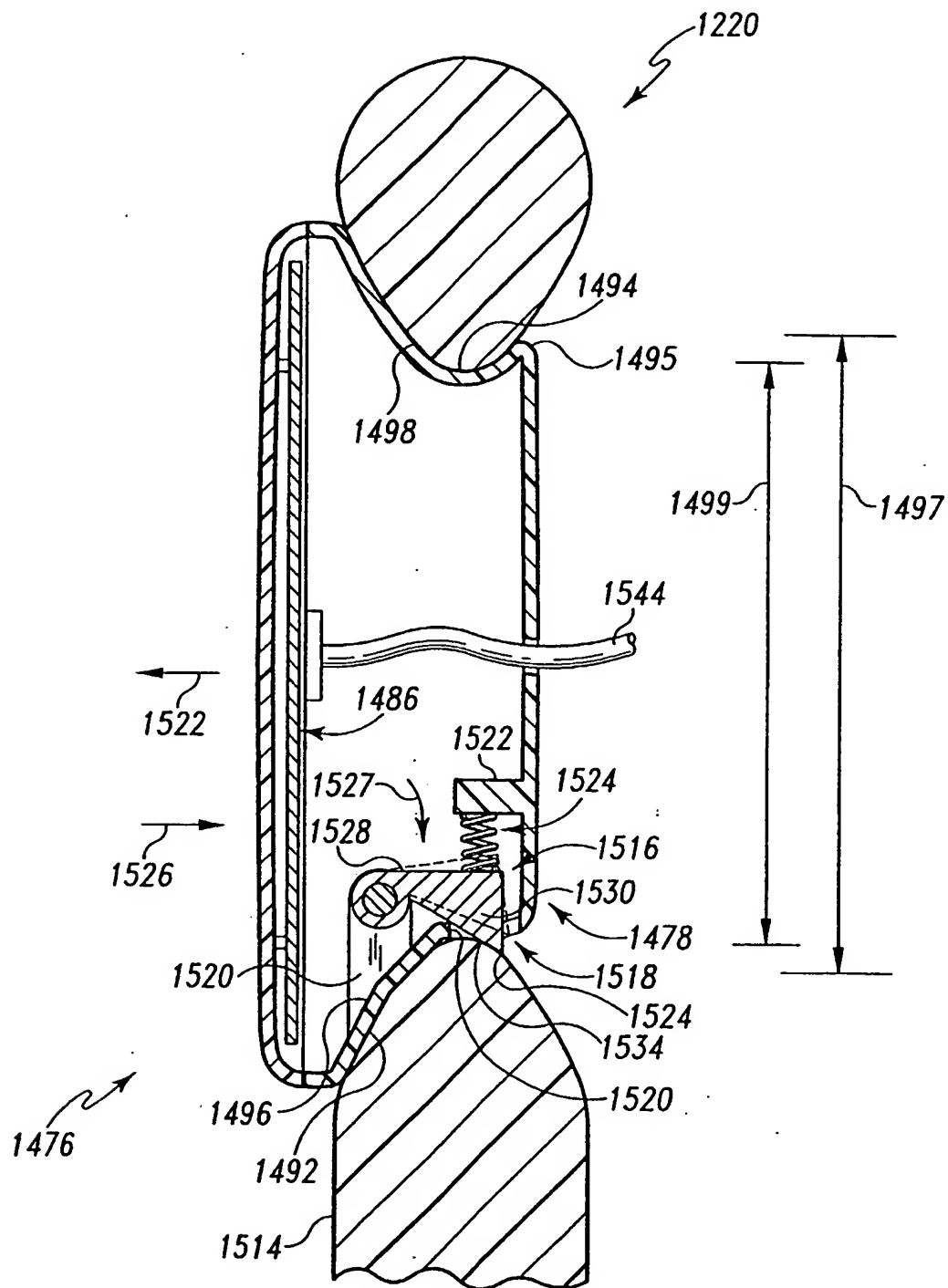
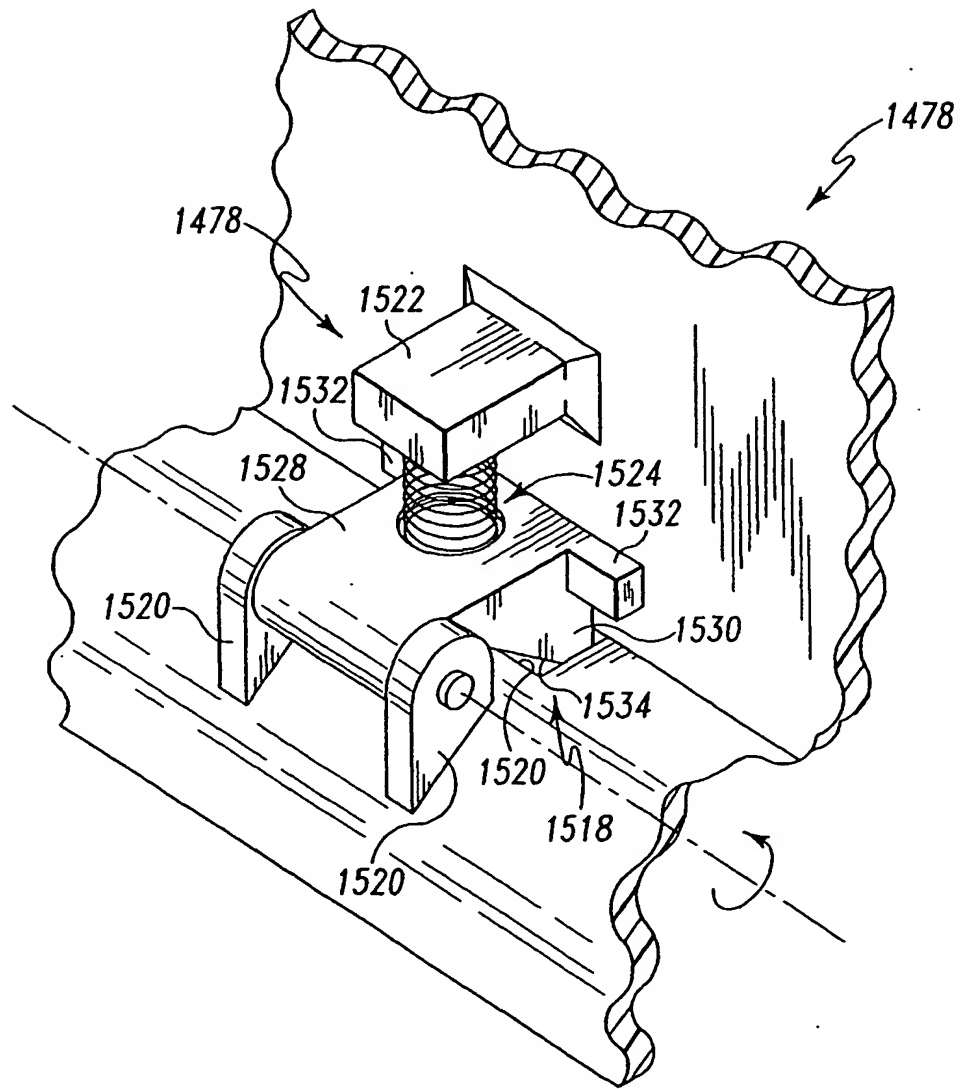


Fig. 102

**Fig. 103**

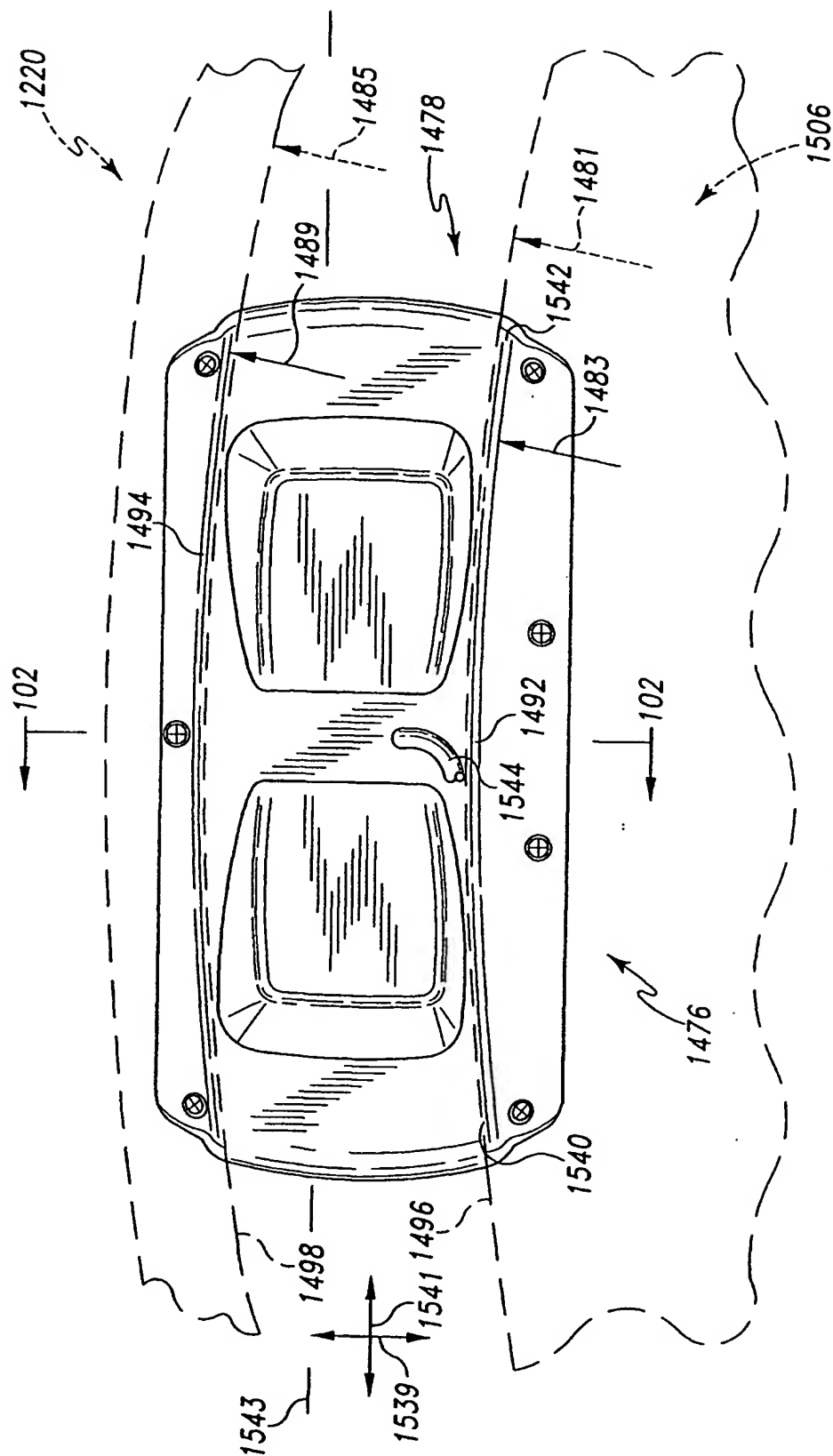


Fig. 104

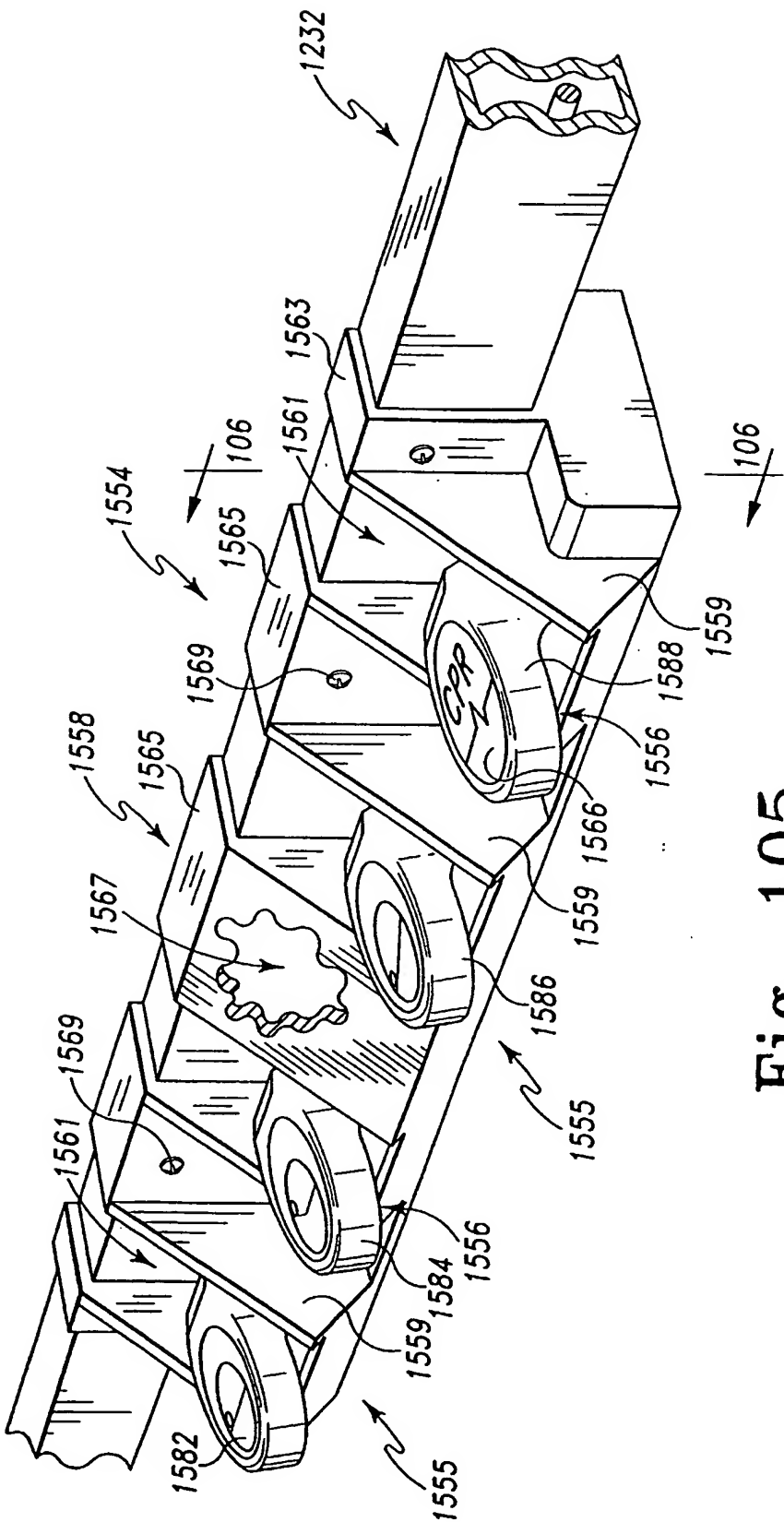


Fig. 105

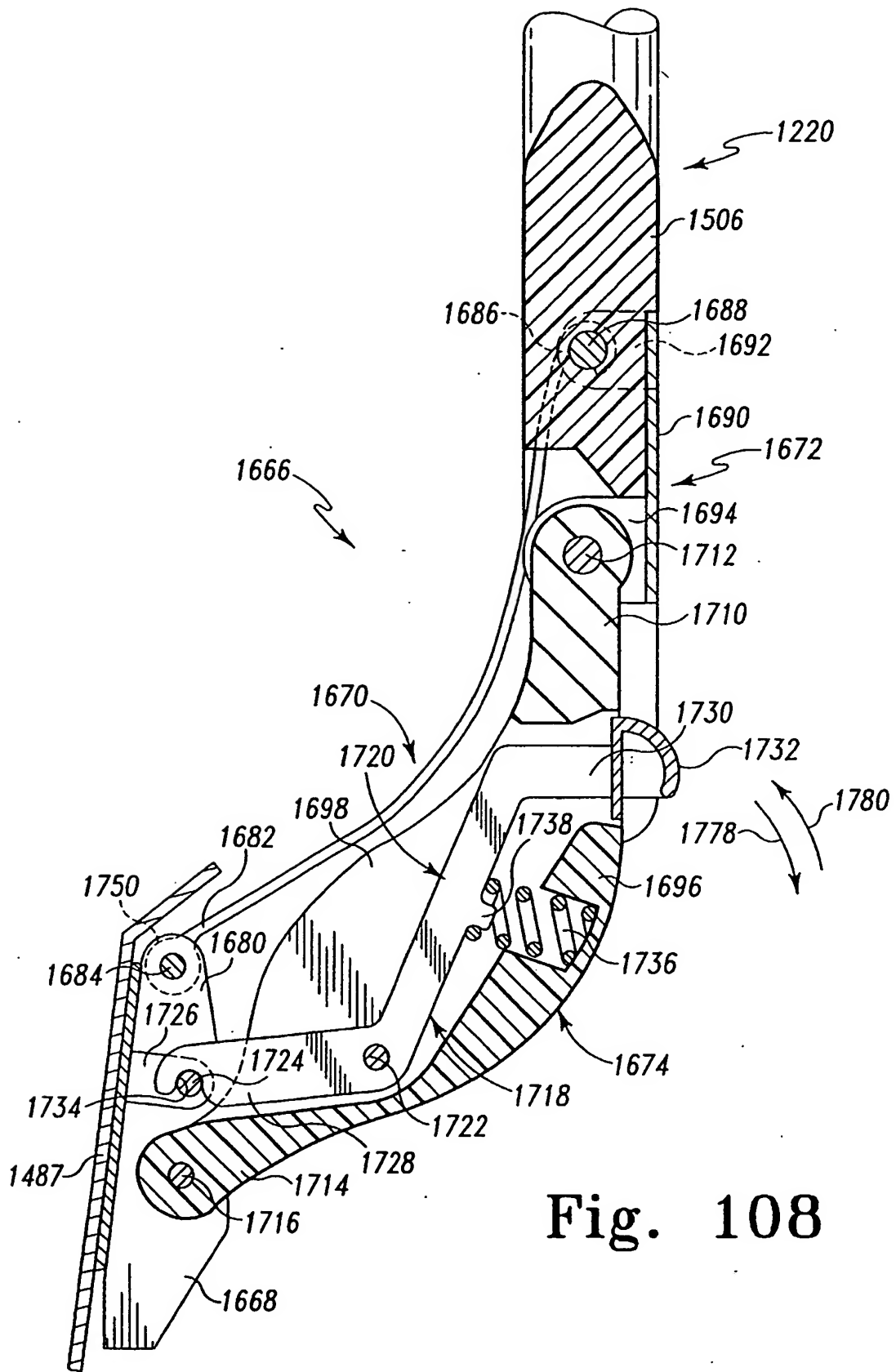


Fig. 108

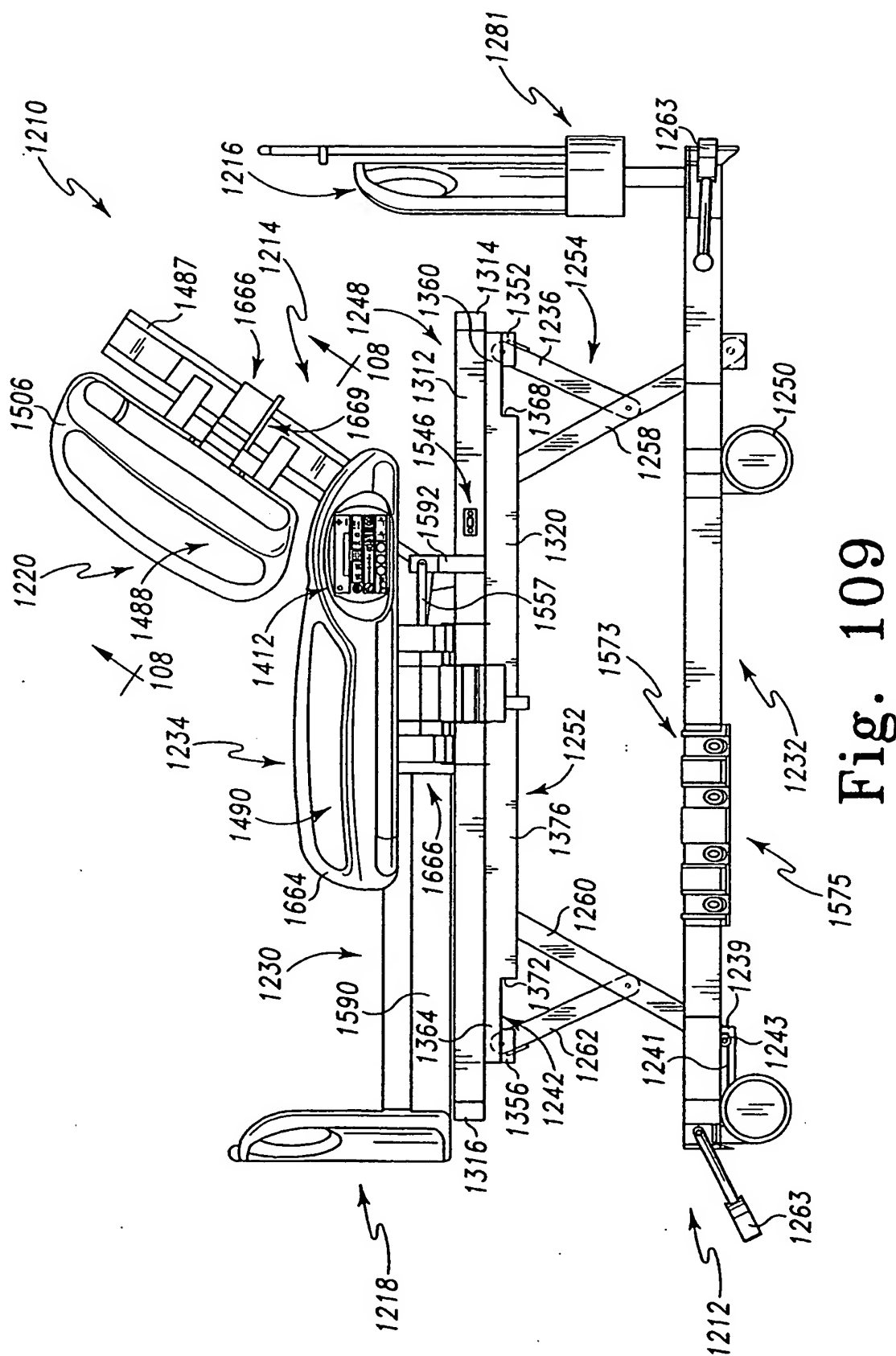


Fig. 109

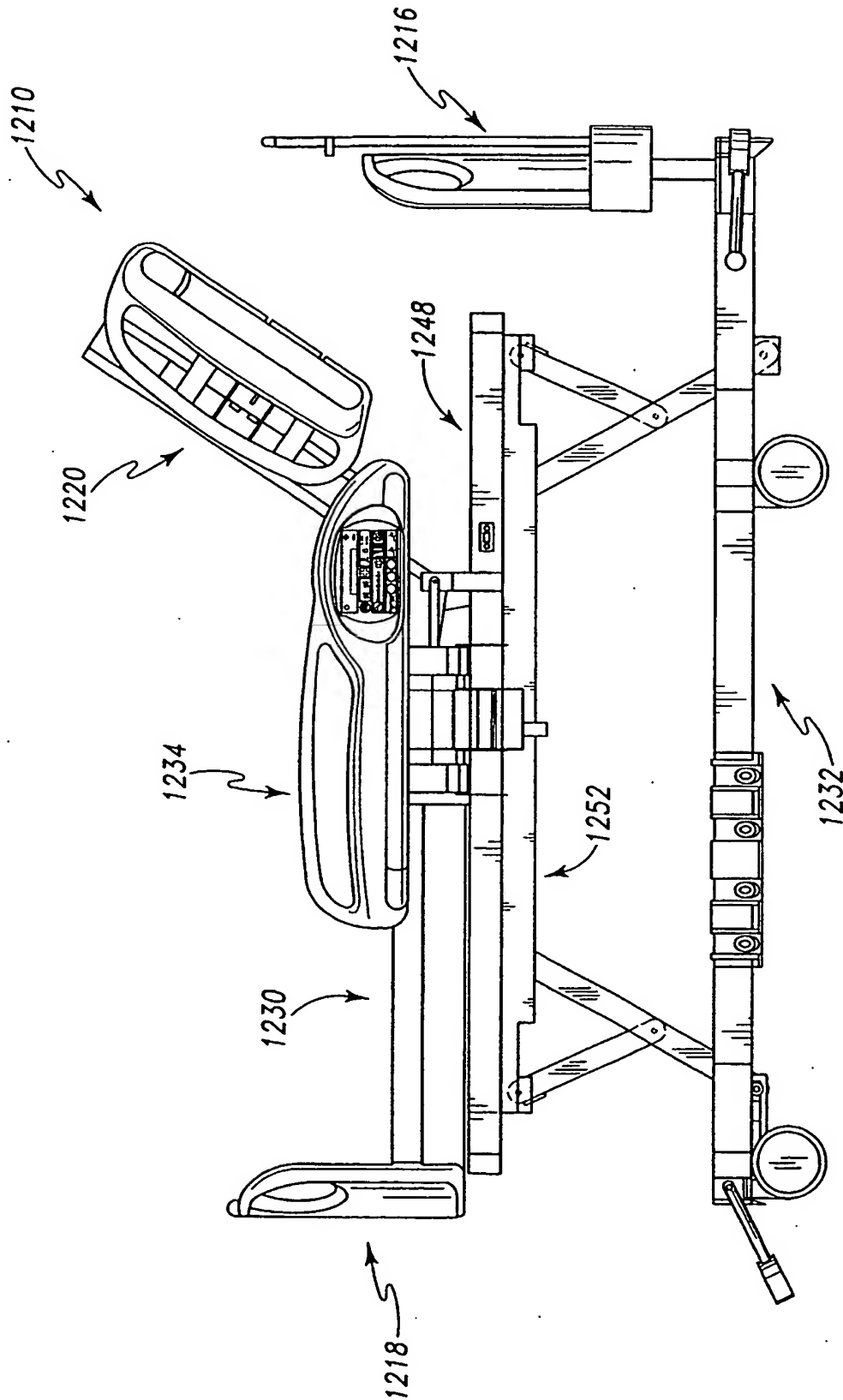


Fig. 110

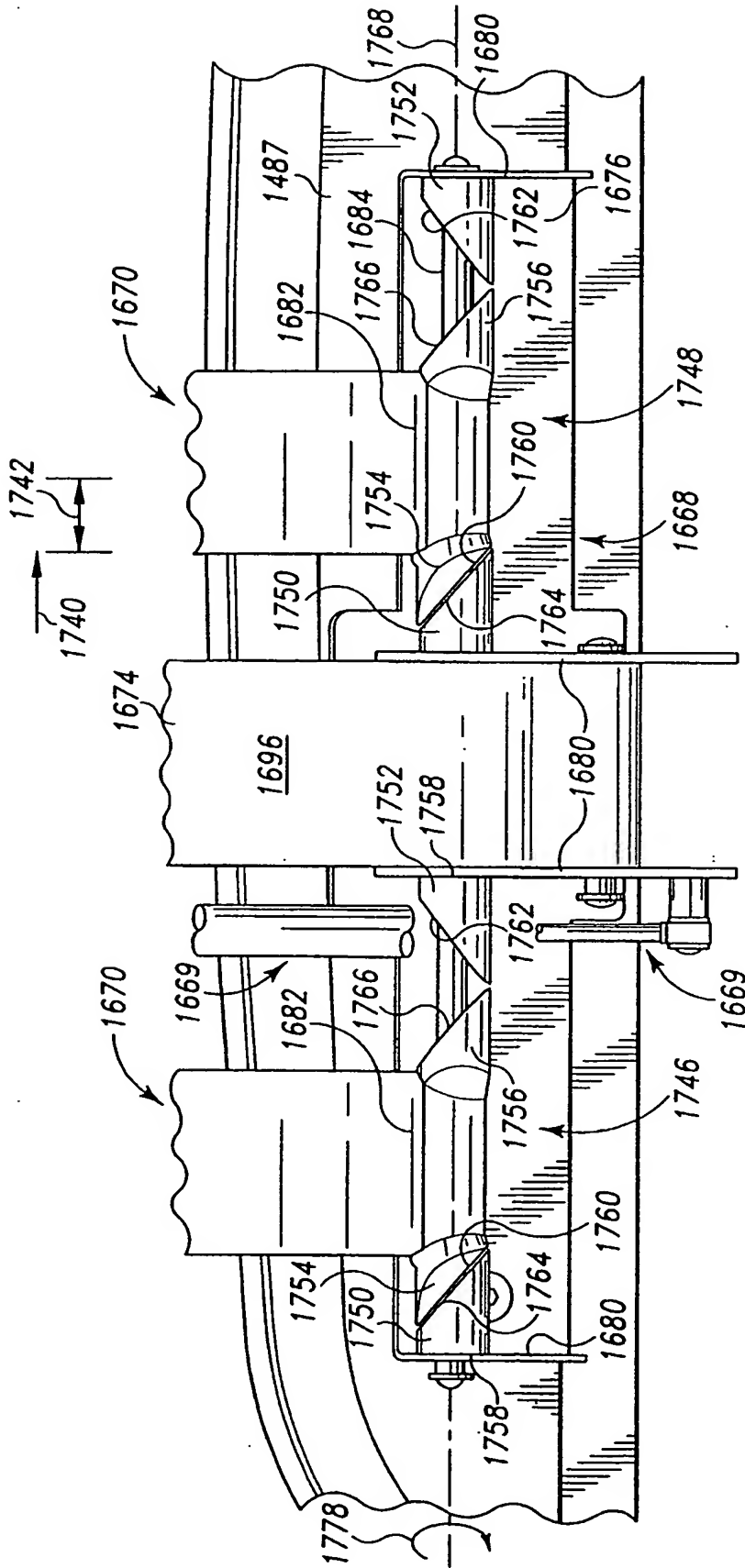


Fig. 111

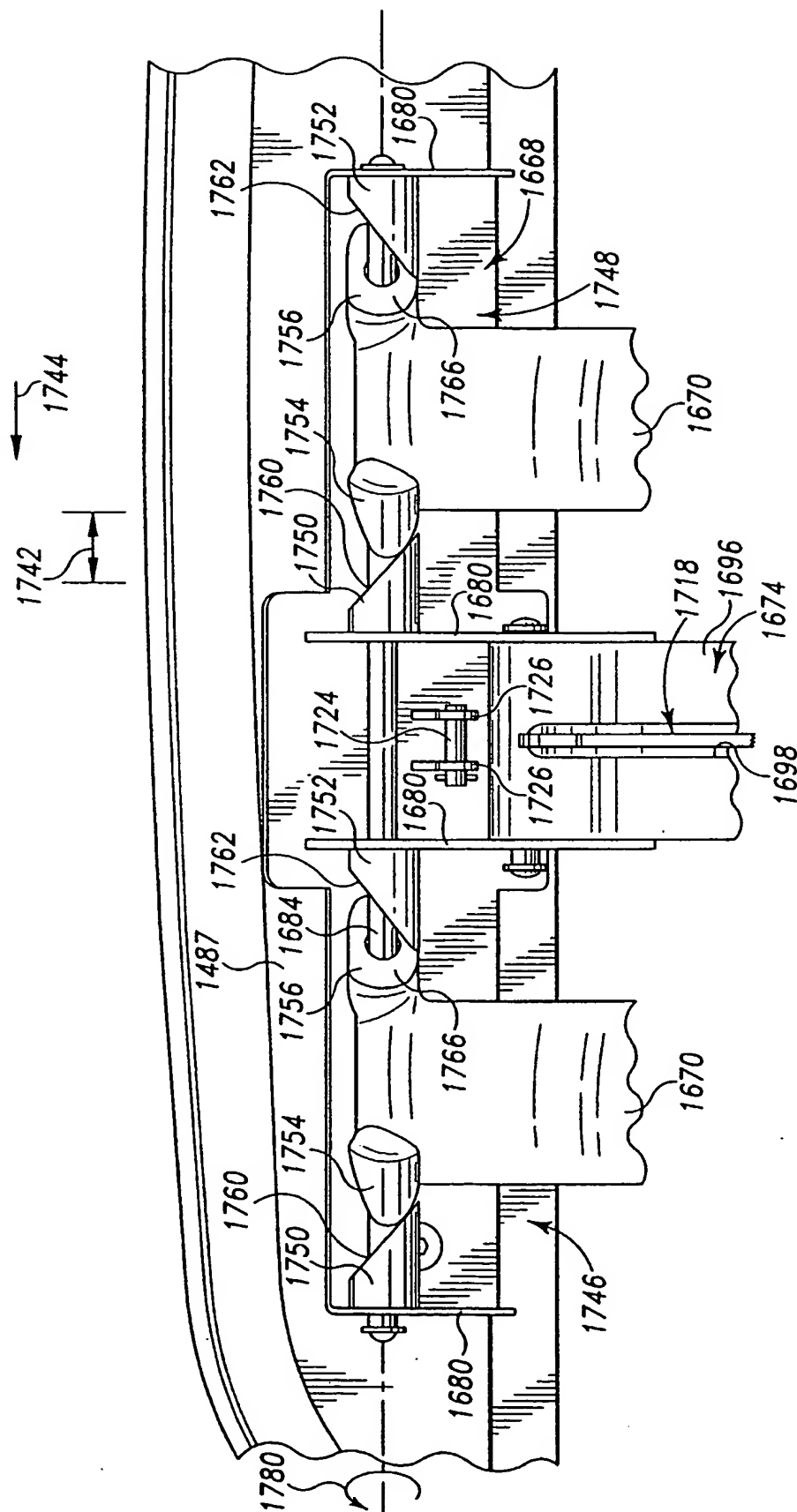


Fig. 112

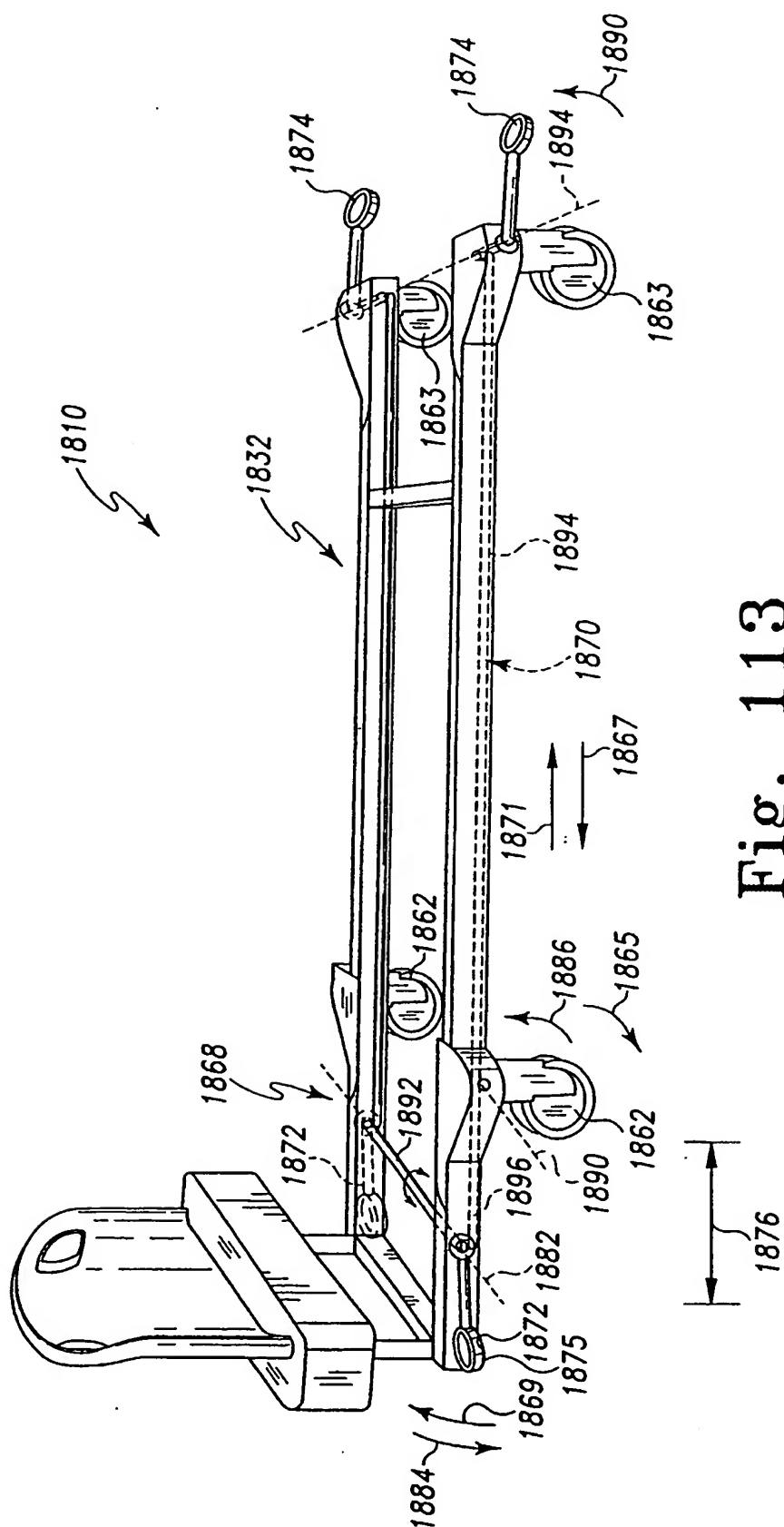


Fig. 113

Fig. 114

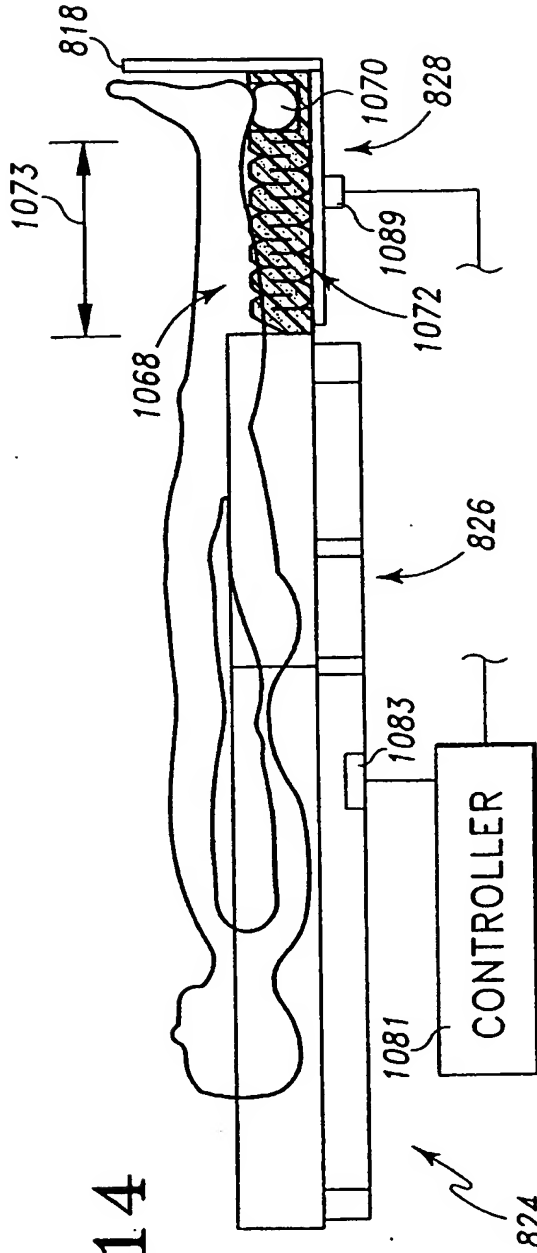


Fig. 115

